

CHILD DEVELOPMENT AND THE CURRICULUM

By Arthur T. Jersild

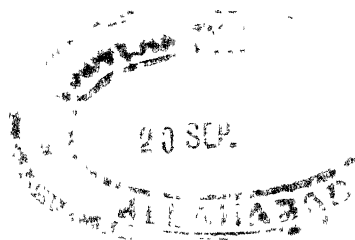
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FOREWORD

IN 1943 a major research project on the curriculum of childhood and youth education was planned by the staff of the Horace Mann-Lincoln Institute of School Experimentation. One of the first steps, preliminary to undertaking actual school experimentation, was the decision to make a critical appraisal of child development materials from the standpoint of their contribution to the curriculum. Not only was it believed that an understanding of child growth and development is basic to sound curriculum planning, but also it was known that much research in the area is not in such form as to be easily available to teachers and other curriculum workers. Further, major deficiencies in the child development research information needed for curriculum improvement have not been clearly outlined. A committee of Institute staff members, under the chairmanship of Arthur T. Jersild, was accordingly asked to undertake the task of analyzing and interpreting the child development field as it relates to the curriculum.

The work of this committee was paralleled by that of another group, under the chairmanship of George S. Counts, on the social bases of the curriculum, which has focused on the relation of education to the nature and fortunes of our society. This latter committee has made a considered analysis of the traditional American beliefs and values, has described our heritage and characteristics as a nation, has studied the

frontiers of our industrial civilization including the tensions and conflicts which we face, and has sketched in broad outline the kind of education needed for America in an industrial age. When published, the report on the social bases of education will stand as a companion volume to this one on child development and the curriculum.

Within a year of its appointment, the committee on implications of child development for the curriculum reported in preliminary form to the Associated Schools of the Institute in order that they might have the guidance of these materials in developing areas for experimentation and might give suggestions for the revision of the report which would increase its general usefulness. The Associated Schools presented many helpful suggestions which have been incorporated in the volume.

These materials on child development will be of great value to teachers, principals, supervisors, and curriculum directors in programs of in-service education and curriculum improvement. Pre-service and in-service college and university courses in child development and in curriculum improvement will find this volume a highly useful and interpretive summary.

Gordon N. Mackenzie

EXECUTIVE OFFICER

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OF SCHOOL EXPERIMENTATION

PREFACE

THIS volume deals with implications of the child development point of view and of research findings in the field of child development. The first chapter discusses the meaning of the child development approach. The second sets forth a number of principles of development that have implications for education. Four chapters follow that deal, respectively, with the infant, the preschool child, the elementary school child, and the adolescent.

These chapters sketch some of the major characteristics of children at various maturity levels. The purpose is to show growth trends, goals, or objectives toward which the organism is striving, developmental tendencies and forms of behavior that are prominent at various levels as the child moves from early infancy to adulthood. These chapters also indicate factors that must be taken into account if the educational program is to be adapted to the needs and potentialities of growing children. In the process there is frequent occasion for pointing out needed research from the developmental angle, and needed experimentation on the educational side.

The inclusion of chapters on the infant and the preschool child has been deliberate. It is true that a large proportion of teachers are directly concerned only with children of elementary or high school years. But to understand children at these levels it is necessary to have an understanding of earlier de-

velopment. The more important goals of education can be achieved only by taking into account, to a greater extent than has been customary, forces that are shaping a child's personality long before the age when children usually go to school.

A preliminary draft of this work, in mimeographed form, was submitted, in the fall of 1944 to the schools associated with the Horace Mann-Lincoln Institute of School Experimentation, with a request for criticism. The response was most generous. Many changes recommended by the teachers, administrators, and other readers have been incorporated into the present draft. In keeping with the recommendations of these readers, the present version retains the same chapters and the same sequence of chapters, and is approximately the same length as the preliminary draft.

Throughout this volume we have drawn heavily upon the literature in child development. Somewhat reluctantly we have followed a policy of not citing, in the context, each specific study upon which the discussion is based. At the end of the book we have listed writings from which findings and generalizations have been drawn. These are arranged chapter by chapter. The author index contains references to the pages on which the publications of the various authors are specifically named and also to the pages in the text that contain material that is based directly or indirectly upon the work of various authors.

The writer is grateful to all teachers and administrators in the Associated Schools of the Horace Mann-Lincoln Institute who read and commented upon the first draft. He wishes to thank the persons in the Associated Schools who aided in securing these reactions, including Genevieve Bowen of Bucks County, Pennsylvania; H. P. Harding of Charlotte, North Carolina; Maurice R. Ahrens of Denver, Colorado; Roscoe V. Shores of Kansas City, Missouri; Fern Schneider of Montgomery County, Maryland; David W. Peters of Radford College, Radford, Virginia; D. C. Rucker of Springfield, Mis-

souri; Deborah Partridge of Tuskegee, Alabama; D. F. Folger of West Georgia College, Genola, Georgia; Donald F. Cottrell of the Horace Mann-Lincoln School, New York City.

A great many other persons have given aid and comfort in connection with the writing of this book. All these shall be nameless save Ruth Jacobson Tasch, who prepared the bibliography and author index, read proof, and kept a friendly eye on the volume as it went through the throes of getting into print.

Arthur T. Jersild

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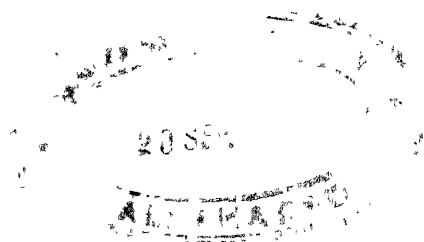
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CHILD DEVELOPMENT
AND THE CURRICULUM



CHAPTER I

THE CHILD DEVELOPMENT APPROACH TO THE CURRICULUM

THE child development approach to the curriculum means an effort to apply to the education of children the lessons learned from the study of children themselves. Research in child development has provided many findings which have implications for education, as will be noted in later chapters. But the child development approach does not represent merely a collection of facts. It represents also a point of view.

Basic to this point of view is a spirit of inquiry—a desire to learn about the ways of children. This means an effort to obtain knowledge, to test this knowledge by repeated study, to state the findings in clear terms so that others can understand and, if they so desire, repeat the study.

RESPECT FOR THE PROCESS OF GROWTH

With this spirit of inquiry goes an attitude of respect for children at all stages of their growth. This respect is built on the view that the experiences which a child undergoes at any stage of his growth, whether he be a newborn baby, a toddler, a school-age youngster, or an adolescent, are as important to him at his level of maturity as are experiences which befall an adult.

The child development approach assumes the child's right

to be a child. Nature has decreed that a human creature shall be a child a long time before he becomes a man. This period of childhood is also the period which fathers the man that is to be. One of the greatest temptations which confront an adult in dealing with a child is to try to tamper with the process of the child's own development. Such tampering may take many forms, ranging from efforts to keep the child from growing up to impatient efforts to make him grow up faster than his own nature permits.

Respect for the child as a growing person who usually tries to do the best he can with what he has at each level of his growth is not founded on sentiment or an impulse to idealize childhood. Nor does it mean that we regard the child as an anointed creature who has rights above all others; for the world in which the child lives is peopled by many others, and just as he has rights, so do his peers and his elders. Again, respect for the child does not imply disrespect for the child's elders. It does not imply that the child is always right and that his parents or his teachers are wrong. An essential feature of the child's world is the support and guidance which his elders can provide by virtue of their greater strength and knowledge.

CONCERN WITH ALL ASPECTS OF HUMAN PERSONALITY

The child development approach is many-sided. It sees the child not simply as a mind to be trained, or a body to be kept in good repair, or a bundle of emotions to be studied. Rather, it sees the child as embodying many characteristics which interlock and interact upon one another in countless ways.

By reason of his concern about the interplay of many forces in human growth and behavior, the student of child development recognizes, for example, that it is important for the child to master intellectual skills, such as reading and arithmetic. But he recognizes also the importance of the child's mastery of

everyday manual and bodily skills. He further emphasizes the importance of the child's emotional well-being, which not only is crucial to his happiness as a person but also plays a decisive role in determining his moral conduct and his behavior as a citizen.

THE ECLECTIC APPROACH

While thus sensitive to the many aspects of human personality, the child development approach is not wedded to any militant theory in science, psychology, or education. The factors which go into the making of a personality are too complex and too varied to permit a sectarian approach. The student of child development recognizes the force of heredity. He also accepts the facts concerning the importance of the environment. The student of child development regards various contending schools in psychology, various philosophies of education, various "isms" in the political and social sciences as eddies in a widening stream of learning. Each is acknowledged, not for its own sake, but for what it has to offer, either as an aid to understanding or as a guide to practice.

CONCERN ABOUT THE POTENTIALITIES OF GROWTH

Like the conservationist who winces at the ruin and wastage of natural resources, the student of child development is constantly reminded of factors which point to neglect, waste, and destruction in the handling of human resources. In the population at large he sees many now ailing who might have been well. Large numbers of children move into adulthood with bodily defects which might have been prevented or remedied or partially relieved if what science can offer had been available to them. Again, large numbers of children move into adulthood as psychological misfits. Many of these were not born to be misfits but were made so by circumstances in the control of human hands.

Nor is the story of preventable human discomfort written simply in the lives of those who have been maimed in body or in spirit. Quite as moving is the testimony of what is as against what possibly might be in the lives of children who do not fall by the wayside but falter in their journey. In viewing these, child development has no panacea or counsel of perfection. But the student of child development at least asks what might be done by way of human engineering, based upon scientific study, to eliminate or prevent many seeming lacks and dislocations.

He sees many children who keep the pace, but against difficult odds by reason of what appears to be poor nutrition. He sees large areas of frustration and dislocation within the school: the high percentage of children who have difficulty in the first grade; the large number who go unwillingly to school; the high percentage of drop-outs in many systems; the lack of educational provisions for all children in many sections of the country; the problems which arise if "slow" pupils are promoted and the problems which remain if they are kept behind; the supreme boredom of large numbers of bright pupils; the frustration and repeated experience of failure of the dull; the dislocation in late adolescence between children's striving for independence and the opportunities offered them to stand on their own feet.

Again, he sees lack of cultivation of developmental potentialities in the sphere of social and emotional behavior and in more specific areas, such as art, music, manual and other motor skills that are valuable both for work and for play. Further, he raises questions concerning the allocation of the school's effort and budget, the expenditure of time for learnings which might possibly be gained with more zest and in less time if postponed to a later stage of maturity, the expenditure of time for some learnings that the child will acquire anyhow at the expense of more timely and valuable undertakings.

THE SCOPE OF EDUCATION

The child development approach views education as co-extensive with life. Education represents everything in the environment from which the child can learn or to which he must adjust. The educational process begins at birth, if not before. Much of the child's education is deliberately planned or provided by adults, but even more comes through the child's countless contacts with people and with things. Every person with whom the child comes in contact is his teacher. Every stimulus to which he responds is a feature of the school of life in which he is reared.

THE IMPORTANCE OF PARENTS

The child's first teachers usually are his parents. What he learns from them through what they do, the care they provide, the instruction they supply, the example they set, is likely to have a far greater influence on him than any other educational agency with which he comes in contact as he grows older. By the time he reaches the nursery school age, and even more by the time he reaches school age, he is already a highly educated individual. Habits, skills, attitudes, modes of behavior which go into the making of what we call his temperament, character, and personality have been established. This does not mean, of course, that his ways are set for all time.

So the child, when he reaches the age when school people first deal with him, is in some respects a postgraduate, in others a freshman, in the university of life. The child development approach stresses both of these facts. On the one hand, it stresses the importance of the earliest formative years, which education cannot reach so readily through direct dealings with the child himself but must reach by way of the child's parents. For this reason, emphasis on parent education in one form or another is prominent in the child development approach. Parent education is conceived not simply as this or

that scheme for direct instruction or advice to parents, but as the embodiment of all influences bearing on a child's life and ways as a future parent. The factors which influence a parent's dealings with a child are, of course, operating long before the status of parenthood is attained. Indeed, a baby is subject to influences which will have a bearing on his conduct when, many years later, he has children of his own.

THE SCHOOL ONE OF MANY EDUCATIONAL AGENCIES

Emphasis on the importance of parent education thus broadly defined does not, of course, rule out emphasis on the importance of schooling outside the home. This schooling assumes increasing importance as the child steadily is weaned from dependence upon parents and, with the years, moves farther and farther into the larger world outside the home.

The school represents an important feature of this larger world. Its function should be defined from the point of view of what, as one of many agencies, it is especially in a position to provide. There are many aspects of a child's life, including aspects of his physical care and his emotional upbringing, which the school will influence less directly than certain other agencies, notably the home. This still leaves the school with more opportunities than could ever be fully used.

The child development approach as applied to dealings with children in the school seeks to take account of findings with respect to what children are like at any given level, and knowledge concerning what is needed for the present and what will be valuable for the future. The aim is to help the child, so far as is practicable within a school setting, to achieve the optimum development of his powers, to adjust to his limitations, and to obtain a balanced diet for the nurture of the many aspects of his personality.

The child development approach in education takes account of both likenesses and differences between children. One of the most difficult practical problems confronting the

educator is this problem of how to deal with individual differences. A good practical answer can be found only through a systematic study of children themselves, combined with an experimental approach in the school situation.

THE SCIENTIFIC APPROACH TO EDUCATION

The child development approach requires a scientific study not only of children *as children*, but also of children *as learners*, in a school situation. Findings from a study of children's growth and behavior will indicate how a school program should be arranged. But such findings will not *per se* tell how the practical details of the school's job may best be carried out. This answer can be found only in experimentation. Such experimentation calls for scientific inquiry rather than simply a good-hearted attempt to play this or that hunch in the hope that some good will come of it. It is in this task that the research worker in child development and the educator join hands as scientific workers in an educational cause.

THE ROLE OF THE TEACHER

When the student of child development thus emphasizes the scientific approach he does not thereby set himself up as a person who looks upon children as guinea pigs. He recognizes the importance of the human touch in practical dealings with children. Similarly, emphasis on scientific experimentation in education does not minimize the importance of the teacher as a person. Indeed, the qualities of the teacher as a person constitute the most important single factor in any school situation.

The following chapters will deal more directly with characteristics of human development. Chapter II will consider principles which apply at various maturity levels.¹

¹ Bibliographies for the various chapters assembled at the end of the book.

CHAPTER II

PRINCIPLES OF CHILD DEVELOPMENT AS APPLIED TO THE CURRICULUM

EDUCATION should be geared to the course of human development. What we try to accomplish through education at any growth level should be in keeping with the individual's capacities and potentialities at that level. Findings with respect to growth and behavior should serve as guides to practice. In order properly to apply the findings it is necessary also to take note of principles of development which emerge when many findings are viewed in relation to each other and to consider the bearing of these principles on the educational program.

This chapter first sets forth certain assumptions and then offers a statement of principles which provide a general orientation for bringing the offerings of child development to bear on education. All these principles are supported by research findings, but not to the same degree. Some, while pointing the way toward educational policies, also reveal gaps and lacks in our knowledge of human development.

SOME GENERAL ASSUMPTIONS

EDUCATION INVOLVES CHOICE

At all age levels beyond earliest infancy, the content of any educational program represents a choice from among many

alternatives. The school curriculum, no matter how liberal it may be, has to be selective. We are making choices for the child when we ask him to come to school rather than stay at home. As soon as we begin to offer anything to him in school we are, to a degree, barring him from other things. We cannot teach everything at one time. Choices are necessary. This leads to a second general assumption.

CHOICES SHOULD BE IN LINE WITH CHILD GROWTH

Our choices at any growth level will be wisest if they are in keeping with the child's capacities and potentialities at that level and the forms of behavior dominant at that particular period of life. The goals of education should be in line with the goals of development—the capacities, adaptations to the environment, and modes of behavior which the organism is in process of establishing through the various periods of its growth.

Development means a process of becoming. It embraces changes which begin at the time of conception and continue until the moment of death. Although the process is continuous, it is possible to define landmarks and milestones along the way. The child now is in the process of learning to walk, later he reaches a level where he can learn to ride a bicycle; he now is in the process of forming his earliest fleeting social contacts with other children, later he reaches a stage where he is capable of sustained and complicated teamwork. His mental operations at first are limited to the immediate environment, later they embrace the past and the future and deal with what is remote as well as near in time and space.

The assumption that what we try to do in education must be in keeping with the child's own growth involves the further assumption that this is the only efficient way to proceed. Whether our aim is to prepare a child for a life of crime or of saintliness, a life of cutthroat competition or friendly co-operation, a life in a horse-and-buggy era or in a machine

age, our efforts will best be repaid if what we offer him at any period in the growth span is adapted to his capabilities at that stage.

CONCEPTS OF HUMAN POTENTIALITIES CHANGE

The claim that education should be suited to the course of development does not, however, imply that we can find a complete blueprint in a study of what research now reveals concerning the characteristics of children. In many areas the research is inadequate. Further, forces other than those within the child himself come into play. The characteristics of children, the way they behave, the attitudes, habits, and skills they possess, will be influenced by what is expected of them and the opportunities which come their way. For example, in a community where everyone swims it is very likely that more children will swim at an earlier age than in a community that has no facilities for swimming. A young child in a bilingual environment will learn two languages almost as well as a child in a monolingual environment learns one.

Many children of today, surrounded by automobiles, radios, electric motors, and other mechanical devices, acquire skill with tools and machines at a far earlier age than might have been predicted a generation ago. It is likely that many elementary school children of tomorrow will likewise acquire skills now reserved for adult experts. Similarly, in the intellectual sphere, through radio, telephotography, and motion pictures, the child of today obtains glimpses of a world that once was very remote. Long before he learns about geography in school his everyday environment brings to him, to a degree quite unknown when his elders were young children, impressions of distant people, places, and happenings. Some concepts and some forms of behavior will, of course, be influenced more than others by variations in the environment. But even so relatively stable a characteristic as physical height may be influenced by variations in diet and other factors.

In other words, we do not assume that we can at any time hitch education to developmental norms as though the latter were absolute. Children may possess many potentialities which have not been discovered because the culture in which they live does not call them forth. Again, by reason of cultural pressures, children may show capabilities or tendencies which represent development in one sphere at the cost of wholesome development in other areas. What we find at any one time is a product of the child's nature and his nurture.

This means that an educational program geared to child development will not be absolutely fixed, but in large measure will be experimental. Such a program will scale its opportunities and expectations in the light of the best that is known about child growth. But it will be on the alert for new insights into resources of child nature. It will be on guard against cultural pressures which are contrary to the best interests of children.

We now move from these general assumptions to examine a number of principles of child development that have implications for education.

PRINCIPLES OF DEVELOPMENT

LEVELS OF MATURITY

The outcome of normal development is increasing maturity. At any phase of his growth a child may be regarded as both a mature and an immature creature. The three-year-old is immature as compared with what he will be at a later time. But he is mature if he lives up to his possibilities of development as a three-year-old.

The educational program should be designed to help the child at any stage in his career to reach his potential level of maturity. This means that education must take into account the child's powers and capacities and the developmental tendencies prominent at this juncture of his growth.

LEARNING AND GROWTH

The development of behavior proceeds through the influence of two factors—learning and growth. We may define learning as any change in behavior which takes place by virtue, in part, of past experience. We may define growth as the biological changes which take place within the organism as the organism progresses toward maturity.

The effects of growth are most obvious in the physical sphere—a child gets bigger and heavier. They are not so directly obvious in the sphere of behavior. Various studies indicate, however, that the factor of growth operates on the processes underlying mental, emotional, and other forms of behavior. In connection with many changes in behavior which take place in the course of development, it is impossible to tell precisely how much of the change is due to growth and how much to learning. The effects of these two factors interact and are closely interwoven. But findings from many fields indicate that many of the changes in what a child is able to do and strives to do come about by a process of ripening or inner growth. Regardless of the opportunities for learning which a child may have, this process of ripening requires time, varying with different performances.

DIRECTION AND FORM OF DEVELOPMENT

The outcomes of changes during the course of development appear in many forms. As already indicated, the most obvious change is a change in size. A little body becomes a bigger body.

There is change also in the form of an increase in capacity. Muscles become stronger; reactions become more rapid. There is an increase in the power to concentrate. The mind can master increasingly complex and difficult tasks.

Some changes, like the foregoing, take place largely through an increase in what is already there. Other changes occur through a process of alteration or refinement or through the

emergence of something relatively new. Again, some changes, notably in the form of complex skills, may be derived from the organization of a number of operations into a larger pattern.

DEVELOPMENTAL PACE

The pace of development tends to be most rapid at its starting point and to slow down with the passage of time. For example, in the period from conception to the time of birth physical growth proceeds at a staggering rate as compared with later periods. Gains in mental growth and in motor control are more rapid during the first year than the second and during the second year than the third, and so on. There are certain exceptions to this broad rule, notably at the approach of adolescence.

In connection with this characteristic of growth may be considered a further proposition, which has not been established as a scientific principle but which very likely is true, namely: the faster the rate of change in human development the greater the opportunity to influence the outcome. To the extent that this proposition is true, the greater becomes the educational significance attached to the early years of a child's life.

THE CONCEPT OF DEVELOPMENTAL PRE-EMINENCE

Although development is continuous, certain of its aspects are pre-eminent at various periods in the life span. There are times when the energies of the individual concentrate on the establishment of a given feature of his physical make-up or of his behavior repertory.

As pointed out earlier, we begin to make choices for the child as soon as we begin to educate him. When we ask what education should choose to emphasize at various periods in the child's career, we should also ask where is the present emphasis in his own development. There are gaps in the scientific data necessary for a complete answer to these

questions. Even so, from the point of view of educational implications this concept of pre-eminence is highly important.

When we look to the child we can see many illustrations of this tendency toward emphasis now on one feature of development, now on another, in the process of growth. We see it when the young child's energies seem to center for a time on the business of learning to walk alone. For a season other features of his development may appear to be at a standstill or even to lose ground. We see this pre-eminence to varying degrees when the young child in his social development passes through a period of resistance and negativism which subsequently subsides. Similarly, we see it when a child announces his discovery of the meaning of how, when, where, why, and who with an outpouring of questions.

We see it, although not so clearly marked, in the child's preoccupation with the interests of the group or team after the middle elementary school years, and in his reaching out for an orientation in the world of affairs outside his home. We can discern it also in broad outlines when we compare the tendency of young children to be physically active with the more sedentary tendencies in late adolescence and thereafter.

We can discern it notably in adolescence when a child's life is dominated to a large degree by the bodily changes which take place with the onset of puberty and by the psychological repercussions of these changes. We see it also in later adolescence, when vocational interests and other preoccupations concerning the future have an urgency they did not possess before.

In none of these illustrations is it implied that the concern in question is the exclusive concern. It also is true that many of the outlines of the phenomenon of pre-eminence are obscure. With added maturity beyond the earliest childhood years, the scope of children's activities widens so much that it is sometimes difficult to tell what are the foremost concerns. This may mean that the concept has only limited application.

On the other hand, it may mean that our research has not fully explored the matter.

It is a matter of interest to note that related to the concept of pre-eminence is the phenomenon of "wholeheartedness and gradation."* In the process of entering upon a new or changed mode of behavior, the child may for a time seem to overdo or to exaggerate. From the adult point of view his "all out" absorption is quite excessive. In the normal process of development, however, his behavior becomes less all-absorbing or comes to fit as an integral feature into a larger behavior system. Walking, which for a while absorbed the child as though this were what he had come into the world to do, eventually moves from the center of the stage as the child goes on to ventures in which walking is simply a means of getting from one place to another. Illustrations of progression from a wholehearted to a graded response can be noted in the child's emotional behavior. They can also be found in his social and intellectual development, as, for example, in his apparent overdoing of competitiveness for a time, and in the plunge he takes into fantasy and make-believe when the development of his imagination has opened up this world to him.

This phenomenon of wholeheartedness is usually more evident in the child's life out of school than in his life at school. The confinement imposed by the school, the presence of adult teachers, and the leveling influence of being with many children whose enthusiasms at the moment may not be synchronized with his own have an inhibiting or moderating effect.

INDIGENOUS MOTIVATION AS A FEATURE OF GROWING ABILITY

Associated with the development of a capacity or power is the impulse to use that capacity or power. An organ or set of

*The term is from H. L. Hollingworth, who uses this characterization to describe changes which take place in emotional development.

organs that *can* function will, so to speak, strive to function. At appropriate stages of his motor development, for example, the child creeps, runs, climbs, even if there are no ulterior ends to lure him on.

This is also evident in connection with the development of the capacity for the intellectual operations which distinguish man from the lower animals. In due time the youngster goes through the various processes of language development; he babbles and articulates and "practices" vocalizations and verbalizations even when there is no one immediately present with whom he can communicate. With the development of perception and discrimination, he explores his visual, tactual, auditory, and gustatory environment. At an early age he shows an appetite for intellectual things, much as he shows an appetite for using his limbs or for satisfying his desire for food, or, at a later stage, his cravings of a sexual nature.

In like manner, he exercises capacities and growing potentialities in the social sphere. He explores the social environment; he seeks to make contacts with other persons; he experiments with different ways of dealing with people. Similarly, he seeks emotional experiences; he will, for example, enter into situations which involve an element of fear in his play and in his listening to, say, an exciting radio program.

According to this principle, motivation is co-extensive with the full repertory of a child's physical needs and his capacities in the intellectual, motor, social, and emotional spheres. This does not, of course, mean that a child who possesses a given potential ability will forthwith take all steps necessary to bring this ability to fruition. Various opportunities and pressures, and the competition of other activities, come into play. The discrepancy between what a person is able to do and what he might be able to do is only too familiar.

This principle of spontaneous use presents a challenge in all the enterprises at school designed to help the child to learn. According to this principle, the normal child has not only the

capacity to learn, but also an appetite for learning. Given the right things to learn, he will go gladly to school (subject always to the reservation that even the best school situation must compete with learning situations which an enterprising child can find outside school). As against this expectation, we have the familiar spectacle of children "creeping like snail unwillingly to school," or of children beyond statutory school age leaving school as soon as they are free to do so, even though there still is much they yet might learn.

We have, then, this situation: while education should count upon the child's impulse to use growing capacities as an integral feature of his development, it is the responsibility of education, increasingly as the child grows older, to find the best channels through which such impulses can be expressed. In exercising this responsibility, educators must weigh particular interests against larger aspects of the child's present and future welfare. In so doing, they can also properly capitalize on the fact that where there is potential ability there is also potential interest, that a child can learn to like to do anything that he is able to do and that offers a continuing challenge to his energies.

THE PRINCIPLE OF ANTICIPATION

Throughout the growth span the process of development constantly involves preparation for the future. The changes which occur in the course of growth not only have a bearing on the present but also establish the foundation for developments that lie ahead.

This principle can best be illustrated if we look backward from the late adolescent stage of growth. The youth is now heading toward the achievement of certain objectives which will mark him as a competent adult. Such competence has many components. One component is the achievement of a degree of physical and economic self-support. This competence has been in the making almost from the time of birth through the acquisition of countless modes of behavior which

enable the child, with advancing years, more and more to stand on his own feet and to pull his own load. Another component is psychological self-support. Competence in this area has been in the process of development from the time, in early childhood, when the youngster first began to form opinions and to make decisions of his own. It has also been in the making in the emotional sphere as the child has moved from the helpless dependence and volatility of the infant to the degree of fortitude and control required of a person who is no longer a child but is capable of begetting children of his own.

The principle of anticipation has a bearing on the question of how far we should go in educating for the future as distinguished from the present. Certain practices in education definitely have reference to the future. Children have been taught how to compute compound interest, for example, on hypothetical savings which they might, with good luck, possess some ten or twenty years in the future. Much of the emphasis on subject matter in the schools has been predicated on possible future use. From time to time in the history of education there have been strong reactions against such practices.

However, while it is proper to question the particular things which children have been called upon to learn for future use, it is quite in keeping with the course of development to keep in mind the child's future activities and needs. The child himself is heading toward the future. As we find him at any given time, certain features in his make-up are manifest, but others are in process of becoming. Moreover, much that holds the center of the stage at any moment is the foundation for, or becomes an integral feature of, a future mode of life. A form of education planned solely with reference to the present would be out of gear with development and would do the child a disservice. This holds true all the more by reason of the fact, as noted elsewhere, that what the school offers must necessarily represent a choice from a vast array of alternatives.

Granted such room for selection, it will be wisest, other things being equal, to choose activities which not only are suited to the child's present level of development, but which also will be useful at a later level of development. The demands of present significance and of future use need not be contradictory. In many areas they are complementary.

VICARIOUS EXTENSION OF EXPERIENCE

From an early age the child is able to encompass experiences reaching far beyond conditions with which he has physical contact. His mind can traverse distances never covered by his legs. It can manipulate things never touched by his hands. This principle is rather obvious, and yet in the light of some recent emphases in education it merits consideration.

In many areas of learning it is possible to make progress only through direct experience with the physical environment. One cannot learn to ride a bicycle simply by being told how, or by watching. However, there is much that a person can learn and can use through the medium of ideas rather than of concrete things. If a child's education were limited only to matters with which he had direct personal experience, his mental life would indeed be poverty-stricken. It is not necessary that mental work always be accompanied by leg work. Granted some preliminary development of a concept of animals, a child can learn much that is interesting about elephants without actually seeing a real one. To be sure, there will be more meaning and relish in the child's concept of an elephant after he has seen a real one, but to limit his knowledge of animals to what he can verify at the zoo or to deny him knowledge about China, for instance, unless he is able to go there and see for himself would be a denial of human capabilities.

This does not mean that we should load the curriculum with abstractions. As a matter of fact, an educational pro-

gram geared to the child's development would lay considerably less stress on the learning of abstractions than now prevails in most progressive and formal schools, and would give considerably more stress to learnings that promote his emotional development, his motor skills, and his competence in dealing with everyday practical problems. But while stressing these matters relatively more than is now being done, we would still recognize that education should not be restricted to what the child can cover through trips, excursions, and the handling of tangible things.

"LAYING BY" OR SHEDDING AS A FEATURE OF DEVELOPMENT

Development takes place not merely through the process of accretion, or the refinement of earlier forms of behavior, or through the emergence of new and different forms of behavior, but also through the sloughing off of features which were appropriate to an earlier day but are no longer useful. Some modes of behavior recede or are supplanted by other forms of behavior. Other modes of behavior are not actually lost, but seem largely to disappear through a process of modification and refinement.

DEVELOPMENTAL REVISION OF HABITS

Ordinarily we assume that the repetition of behavior which serves a purpose and which brings satisfying results will lead to the firm establishment of a habit. This does not always hold in the development of the child. Repetition of activities appropriate to a given level of maturity does not, in itself, establish habits that will be carried over to a later level of maturity. Indeed, if no unwholesome factors intervene, the child of his own accord will revise many modes of behavior that have prevailed for a time. For example, the young infant on a "self-demand" feeding schedule will, for some time, be fed upward to eight or nine times every twenty-four hours. This,

however, does not establish a continuing demand to be fed according to this schedule. As a baby grows older, there is an increase in his capacity for food intake at any one feeding. Steadily from week to week, albeit perhaps erratically from day to day, there also is a lengthening of the periods during which he sleeps without waking, and a corresponding lengthening of the periods during which he is awake. Coincidentally with this, through a process of elimination and merger, there is a decline in the number of feedings which he demands.

A corresponding phenomenon can be found in connection with various aspects of the child's motor, social, emotional, and intellectual behavior. Even if no strong repressive measures are brought to bear, the child who at early preschool age did much hitting and snatching in his encounters with other children will with the passage of time substitute language more and more for physical techniques of conflict. The child who at a certain stage of his growth immersed himself in make-believe will not, simply as a function of the time devoted to make-believe, become permanently addicted to fantasy as he matures. The youngster who, to varying degrees at various stages of his growth, shows a short attention span in many of his enterprises will not, simply through the fact of having frequently flitted from one occupation to another, find it impossible to acquire good habits of concentration.

We could multiply examples of this principle. Parents and teachers would be spared much fretting, and children, on their side, would be spared from many repressive measures, if it were more generally recognized that many forms of behavior exhibited at a given stage of growth will not be perpetuated simply by frequent use. Granted his own good time, the child himself may become more intolerant of some of his earlier practices than even his elders had been. We see this illustrated in his radio interests. For a time many youngsters are enthralled by programs which adults consider trashy or inane.

A few years later the same children criticize and disparage these very programs.

While general recognition of this principle in the many practical details of child rearing would add to the comfort both of children and of their elders, it is also true that the principle leaves many questions unanswered. We need considerably more systematic research to tell us which forms of behavior may be regarded as appropriate to a given stage of growth and which ones the child himself will abandon or modify as he matures. Correspondingly, how can we identify "immature" forms of behavior that are likely to be established as lasting habits unless corrective measures are brought to bear?

Answers to these questions would solve a host of problems in the rearing of children at home and in the instruction of children at school. Among the school subjects, spelling offers a good example. A child usually is able to communicate much in writing before his spelling is correct. A fourth grader, for example, may indicate in writing the names of twelve favorite radio programs with sufficient approximation for an adult to identify each even though the name of not a single program is correctly spelled. The same youngster will, with the passage of time, come to spell correctly many of these words even though the words have not been singled out and separately taught. On the other hand, there are some children who will continue into adult years to be confused about their spelling. In order to avoid this possibility, some teachers treat spelling as an end in itself. By so doing, they may devote time and energy to the spelling of many words which most youngsters eventually, and apparently without special effort, will learn to spell anyhow. Unfortunately, the question of how far we can trust the child to supplant earlier repetitions of incorrect spelling with the discovery of the correct spelling is one requiring further study.

Spelling offers a convenient example; but we could raise

similar questions with respect to almost every feature of the conventional school program, not only as regards the learning of specific areas of subject matter, but also as regards certain larger objectives, such as improvement in capacity for sustained concentration, the establishment of good intellectual work habits, and the like.

INTERACTION BETWEEN VARIOUS ASPECTS OF GROWTH

While various components of an individual's make-up have a developmental course of their own and proceed with a certain degree of independence, it is important to take account of ways in which the different components interact upon one another. Motor development, for example, takes a course which in many respects is independent of intellectual, social, and emotional development, yet it interlocks with these other features in vital ways. Thus, motor development plays an important role as a vehicle for social development. Throughout childhood, and especially in the preschool and elementary school years, a child's social contacts with his peers are to a large extent made by way of common motor activities. Again, a child's motor development will have an important bearing upon emotional features of his behavior. The child who is backward in his motor skills will, for example, have occasion to be angry or afraid in the face of obstacles or threats which an abler child would handle unemotionally.

In like manner intellectual operations interlock with the development of social behavior. During early childhood make-believe activities, for example, play an important role in children's play and other social relations. The activities and interests involved in children's social dealings with one another may, in their turn, have a significant bearing upon a child's intellectual occupations, his motor skills, and his acquisition of what his peers and elders regard as "mature" forms of emotional behavior. Similarly, disturbances in the child's emo-

tional life may interfere with his mental operations and with his physical functions.

What we do in education should be chosen with an eye to these interlocking relationships. What we provide for helping children to build competence in various motor activities, for example, is not simply an investment in healthy exercise or handy skills. It is also an investment in social and emotional adjustment. The child who is helped to become a good third baseman in a ball game may thereby reach first base in his efforts to be socially acceptable to other children.

THE PLAY OF COMPLEMENTARY AND POTENTIALLY CONFLICTING FORCES

From the time of birth the child shows motives which, when viewed in isolation, seem to be opposed or conflicting. When viewed in larger perspective, however, they represent the play of forces which complement and support each other.

Dependence—Independence. At birth and throughout ensuing years the child is a highly dependent creature. Also, practically from the moment of birth he is striving for independence. On the side of dependence there is the fact that his very survival from day to day during early infancy hinges upon the care others give him. Along with his helplessness he exhibits with the passing years a desire not only for physical support but for psychological support. He seeks affection, he wants to feel that he belongs. This desire for emotional acceptance by others, notably his parents, expresses itself in various ways and with changing degrees of intensity as the youngster matures. There is a gradual weaning from emotional dependence upon his parents and other adults, just as there is a weaning from physical dependence. But throughout the growth span this dependence persists to a high degree even when the child's behavior seems to belie it.

The child who thus is dependent strives also, as indicated, to be independent. In various ways, as befits his growing abili-

ties, he seeks to strike out for himself, to walk rather than be carried, to roam at large rather than be always under the parental eye, to do for himself, to initiate ventures of his own, to think for himself, and to act according to his own decision. There will be times when these two tendencies clash.

Self-Centered and "Outgoing" Tendencies. From the time of birth each normal person asserts his own interests and desires and learns increasingly to further and protect what he comes to regard as his individual rights. Also, almost from the time of birth the same creature defers to others in many ways. He has a tendency to give as well as to take. On the one hand, the child, at various stages of his growth, cries and fusses and seeks attention without regard for the convenience of others. He passes through periods of strong self-assertiveness. He competes, and in time he is much concerned about his own prestige. On the other hand, the same child, at an early age, goes out to others through manifestations of affection. With the passing of time he exhibits cooperation, sympathy, friendliness, loyalty. Behavior in both categories is normal and similarly a product of tendencies within the child himself and of forces in the environment in which he lives.

The issue between dependence and independence usually impinges more on the home than on the school. But the school also has a role to play. It must avoid both overprotection and rejection. It must help the child to acquire skills which enable him increasingly to stand on his own feet.

The issue between self-seeking and "outgoingness" has definite bearing both on the home and on the school. It is properly the function of the school to provide opportunities for the child to cultivate his capacities for sympathy and cooperation. It also is properly its function to provide opportunities for the child to learn how to assert himself. This means, among other matters, that the school must provide opportunities not only for cooperation but also for wholesome

forms of competition. In the past there perhaps has been too much emphasis on competition. On the other hand, if schools tried to root out all conditions which might involve children in competition, the youngsters themselves would find ways to compete.

INDIVIDUALS DIFFER IN RATE, PATTERN, AND
ULTIMATE LEVEL OF DEVELOPMENT

The well-known fact of individual differences carries a host of educational implications and raises many practical problems. On the one hand, education must take account of the norm; on the other, it must take account of deviations from the norm.

The idea of the norm, of what is "normal" or average or approximately to be expected, is an essential one whether we wish simply to describe children or wish to do something for them. It operates in our everyday dealings with children whether or not we happen to be familiar with the results of measurements of mental and physical traits. This point is rather obvious, yet it deserves mention; for some persons seem to deplore norms and standards as though these had been foisted upon education by the makers of tests and scales. Actually, the makers of devices for measuring children's performance have simply given more precise definition to standards which are constantly being applied in everyday life. It is only with some kind of standard in mind that we can speak of a child as being big or little for his age, or as being unusually clumsy or clever with his hands, or as having good command of language. We have something like a norm in mind when we buy a rattle rather than crayons for a six-months-old child. The idea of the norm, of a standard of comparison, is not only useful but indispensable as a tool in dealing with human nature.

Norms are useful also as a guide whenever we are called upon—which is often in daily life—to make the best provision

we can for large numbers of children—whether it is buying desks for a school building or setting broad goals in the social studies for the sixth grade.

Norms not only are useful in defining approximately what may be expected at a given level of maturity in a given activity, but also provide a corrective against trying to push one aspect of a child's development at the expense of others. The fact that a group of children show high achievement in the three R's takes on a different meaning if it can be demonstrated that these same children are quite backward in the arts, in manual skills, or in the skills involved in getting along with other persons.

Just as norms are useful, so also they can be abused. To apply them as rigid standards would do an injustice to the individual child. To use them as though each child should conform to them would do violence to human nature. There are endless individual variations. Moreover, to regard norms or tentative norms now available as fixed and final would block experimentation.

Not only are there variations around the norm, but even when two children have the same rating they may prove to be different on closer inspection. Two boys may be of the same height, but one may have a relatively longer trunk, another relatively longer legs. They may earn the same score on an arithmetic achievement test, but one may have worked much harder than the other to earn it. Four children may be similarly backward in reading; the backwardness of one may be due mainly to poor habits, of another to poor mental ability, of another to poor vision, of another to emotional disturbance.

There is still another important kind of variation. At the present moment two eight-year-old children may be similar in ability, in reading for example, and yet this may be only a coincidence: if they had been tested six months earlier, or were to be examined six months later, they might be found to be

quite different. Child A may be in process of gaining quite rapidly, while child B is moving at a slower pace. So, six months earlier B might have earned a higher score than A, but six months from now A may surpass B. At the present moment their achievement curves happen to be at the same point, but A's curve is rising rapidly while B's is ascending more slowly. According to a single test at this juncture the children are similar, whereas actually they are quite different.

In connection with individual differences there are certain subsidiary principles, some more obvious than others. One such principle is that differences between children are influenced both by heredity and by the environment. In the case of a great many human traits it is impossible to determine precisely what each of these two factors has contributed. But we know that many of the dissimilarities which meet the eye can be traced to the environment. It is apparent also that children would still differ in countless ways even if, by some magic, the external environment were made similar for all.

The fact that children differ raises many practical problems in education, as well as many questions of policy. The latter are quite difficult to solve if provisions for individual differences are considered in piecemeal fashion. In dealing, for example, with differences in the kind of mental ability involved in academic achievement we might ask whether we should "enrich" the program for the bright, or for the dull, by giving them extra or special teachers and extra equipment at the expense of the average, or whether the investment should be equal for all. This issue involves questions of social values that go beyond the study of child development.

Questions of policy with regard to individual differences appear in a somewhat different light when, in keeping with the child development approach, the school's program goes beyond the academic alone and concerns itself also with other areas of living and learning. Such a program is better geared to the fact of individual differences; for just as it is true that

each child differs from others in any given ability or trait, so it also is true that there is variation within the child himself. He may stand high in mental ability but be near average in his motor abilities. There is, to be sure, a tendency for good qualities to go together: the child who is superior in one respect is more likely to be above than below average in other respects. But a great deal of unevenness is the rule. If children in a group were arranged from high to low according to one criterion, such as reading ability, and then according to other criteria, such as singing, drawing, crafts, and ability to get along with others, there would of course be many shifts in the line-up.

This fact that abilities are uneven means, incidentally, that individual differences may seem more marked when the development of children is evaluated in terms of a single characteristic rather than in terms of an aggregate of many characteristics. John has an IQ of 130 as compared with Jim's 100—in this particular a marked difference. But now add other features to the picture, such as height, weight, motor achievement, "social maturity," and the like. In some of these John again scores higher, in others Jim is ahead, in others the two boys are about the same. If we could add all features into a composite "developmental age," the difference between John and Jim would be smaller than the difference in IQ alone. From this standpoint, "Children viewed as wholes are more alike than children viewed as parts."¹

It is only through a program embodying many activities and areas of learning that we can minister to the varied abilities of children. Such a program will provide also a wider range of incentives by giving recognition to a wider range of enterprises. Thus it may help to protect many children from becoming lopsided in their development. A child who already stands high in reading, for example, may profit much more by learning to play a musical instrument or

¹Quoted from W. C. Olson. See reference in bibliography for Chapter II

by acquiring certain manual skills than by adding to his already high level of achievement in reading. The bright elementary school child may profit more from learning how to get along with others in non-academic pursuits than by adding another chapter to his already brilliant record as a scholar. Of course, to achieve this outcome it is necessary that the school program not only have many things to offer but also be as flexible as is practicable for the individual child.

EARLY ESTABLISHMENT OF BASIC FEATURES OF PERSONALITY

Characteristics and qualities which distinguish each human being from all others, and which go into the making of what we call personality, are manifest in early infancy. They tend to show a high degree of persistence and consistency with increasing age.

This does not mean, of course, that a person's ways are "set" or have "jelled" once and for all at any particular stage of his growth. Changes come about through impact with the environment at all ages. An individual's characteristics are not fully predetermined either by heredity or by events which happen during the first few months or the first year or two of life. But the characteristics which distinguish this creature from that are not at all like putty in the hands of circumstance. Not only is it true that dominant trends in what we call an individual's personality appear early and tend to persist, but it is also true that modifications occurring with the passage of time will be relative to what was already there. Changes will represent primarily a building up or a modification of traits rather than the implantation of something that is new or that is different from or foreign to the individual's earlier make-up.

Educationally, this principle carries with it the well-known injunction that we should respect the unique personality of each individual child. It also implies that our concept of

what is appropriate, what makes for an "integrated personality," should take account not only of norms derived from a study of large numbers, but also of what is most fitting from the point of view of the individual child. Thus, while we say that a child should become "socialized," we recognize that a youngster with a certain cluster of abilities and inclinations is doing very well even if he is much less gregarious than some of the other children in his group.

READINESS

The concept of readiness represents an educational approach rather than a principle of development. It raises the question of the timeliness of what we wish to teach in the light of the child's ability to take it. Does the child possess the requisite capacity and the background of experience? Is it economical to devote time and energy to a certain undertaking now or should it be postponed until the child is more mature? The problem of readiness raises issues which overlap many of the concepts and principles set forth in this chapter.

A large number of studies bear in one way or another on the subject of readiness. They fall into certain broad groupings. First are the studies which center primarily on development as such, without seeking to control either the child or the environment. Here we have accounts of the series of changes which take place over periods of weeks or months or years as the child progresses in his language development, for example, from grunts and gurgles to the use of complex sentence structures, or as he progresses, in the development of his social behavior, from fleeting contacts with another baby to complicated teamwork with a large number of peers. Here also fall the many studies which describe the characteristics, abilities, and interests of children at various age levels.

Findings in studies such as these provide important testimony concerning the timeliness of various educational projects. They also have limitations. When a child of ten, for

example, displays certain interests and abilities, we cannot be sure whether they reflect his potentialities or whether there might be other things he could master and enjoy if he had a chance to try his hand at them.

In another group of studies efforts have been made to find whether the child's rate of progress or his attainments might be modified if special opportunities for learning were provided. A common procedure has been to pair off children who are similar in accomplishment and then to give one member of each pair some form of extra opportunity or training while the other member moves along at his own pace. For example, one member of a pair of twins receives special opportunity, for a time, in stair-climbing or swimming or in language usage while the other does not. Again, certain children are given the opportunity, in an attractive setting, to learn to sing, while a control group receives no such treatment. As another example, one group of sixth-graders receives special help in the learning of concepts of time, chronology, and the time sequence of historical events, while children in another group are left to pick up such knowledge in their own way.

Comparisons are later made between the paired children. If the youngsters who received special attention perform in much the same fashion as those who did not, this finding suggests that they are not "ready" at this time to profit from special educational efforts in this particular activity. Instead of trying to force or speed the child's progress it would be wiser, other things being equal, for education to center upon other matters. On the other hand, if significant gains are made by those who received the special training, this would suggest that the children are "ready" for education in the undertaking in question.

The above somewhat oversimplifies matters, since readiness usually cannot be defined in all-or-none terms. But it is a distinction that can be made for practical purposes.

Even if we solved the question of readiness in connection

with all that the educational program offers, other questions would remain. At a given time, a child may be "ready" for several undertakings which cannot all be accommodated. The fact of readiness alone does not tell what the choice should be. The answer must be sought on other grounds. What, so far as can be determined, is pre-eminent in the child's own development and what problems and hurdles especially confront him at this stage of his growth? What, in the light of the principle of anticipation, is he heading toward, and in what ways is it important for him to be forearmed? It also is proper to take account of the demands being made upon children in their life outside the school.

From another angle we may ask, What happens if a child is "ready" and nothing is done about it? Just as there is a season before which it is not economical to try to learn, is there also a time beyond which it is not well to delay? This problem has not received adequate attention in systematic research. From everyday observation it is possible to find examples of things that seem to become difficult to learn when a person is older. It seems to be more difficult for a person aged about twenty or over than for a person under ten to master the accents of languages that differ from his own mother tongue. Similarly, an adult has difficulty in learning how to pitch a ball if, as a child, he learned only how to toss. Again, there are many acrobatic performances, as well as activities such as dancing, swimming, and various manual skills, which appear to be harder for a person to master as an adult than as a child. Perhaps in some of these inertia rather than lack of capacity makes the difference.

There is the further fact that many performances, such as swimming, skating, which a person can learn quite incidentally if he has a chance as a child, require special effort and attention if he tries to learn them at the adult level. On the other hand, the substitute skills which can be acquired by an adult who has lost a hand or one who has become blinded

illustrate remarkable capacity for "new" learning at the adult level.

Observations such as these do not provide an answer to the question of whether there is a season when the iron is hot, so to speak, after a child has become "ready" to learn a certain thing and the further question of how the ability to learn might suffer if learning does not occur during this season. It is likely that if such seasons prevail in connection with some forms of learning it will also be found that they are of rather long duration, especially in connection with learnings primarily intellectual in nature.

CHAPTER III

DEVELOPMENT DURING INFANCY

THIS chapter and the three following are designed to give an overview of development. They will trace some of the major events in the course of development from birth to maturity. For convenience, the child's career is broken into four periods corresponding to infancy, the preschool years, the elementary school years, and adolescence. A chapter will be devoted to each of these levels.

MEET THE BABY

In our present system of education most schools and teachers are not directly concerned with the everyday details of the care and training of babies. However, a consideration of development during the infancy period is important for the understanding of children who have reached school age. What happens during this early period has a profound bearing upon the later life of the child.

The six-year-old who is just beginning first grade is old in many ways. From the time of his conception his advance on the road to maturity has been greater than it will be during any succeeding six-year period. Yet this child who has come so far has a long way to go. Although a veteran, he still is a baby in many ways. This chapter will not attempt to present a detailed account of growth nor a list of practical hints for

the everyday care of infants. Rather, it will sketch briefly some of the major currents and developmental trends during the infancy period.

MUCH HAS GONE BEFORE

When a child is born he already has lived through a period of about forty weeks. During this time his development has proceeded at a staggering pace. He began as a single cell. He now is unmistakably a human being, and he is capable of a large repertory of activities.

The child who has been a distinct creature for forty weeks has origins which extend back into the past through countless generations. His father and his mother are represented in the germ cell from which he started, and so are their fathers and mothers. His forebears have provided the recipe for his being. The forces of heredity already reside in him, and these will determine much of his future development.

They operate quite early in his fetal life as he develops progressively into the form of a human being as distinguished from some other creature. Some of these forces will operate during ensuing years to determine, to a large degree, his size, his physical appearance, his intellectual potentialities. His heredity will also have an influence on the strength and ruggedness of his constitution. It may predispose him to certain weaknesses and diseases. To the extent that his temperament and personality are influenced by the physical properties of his body, even these rather subtle qualities of his make-up will be influenced by heredity.

The way in which these inherited tendencies work themselves out will, however, be shaped to a large degree by what life has to offer. What nature has provided at the start will be affected by the nurture the child receives. Some characteristics with hereditary background will be modified more than others. Regardless of his inheritance the circumstances of his

life will make a great difference in determining the kind of person he eventually turns out to be. But his inheritance still has an important influence. It is handed to him at the time of conception. He did not ask for it. Indeed, he was not consulted as to whether he wanted to be born. This rather obvious point is worth remembering when we are tempted to praise or to blame children for the possession of qualities over which they had no control.

BRAINS IN THE MAKING

The child at birth is quite a versatile creature, but he is incomplete in many ways. Among other matters, his cerebral cortex—the brain structure essential for voluntary control of activity and for the higher forms of mental activity which distinguish human beings from other creatures—is still undeveloped. He has a full complement of nerve cells, but the cells of the higher brain centers are structurally immature. One of the major changes which take place with growth is maturation in this area.

Some features of this maturation have been studied, but available evidence does not indicate what is the parallel between the maturing of nerve tissue and the increase in mental capacity which children show from birth until about the age of twenty. It seems, however, that the mental growth which takes place through maturation is analogous in some ways to the increase in physical power which accompanies the growth of other parts of the body. The three-foot three-year-old does not have the height and the reach to get a history book off a six-foot shelf. Similarly, his brain does not have the height and the reach to master the contents of the history book.

HELPLESS BUT STRONG

One characteristic of the newborn which will influence his life in the years to come is his helplessness. His survival from

day to day depends on the care he receives from others. This helplessness makes him very dependent on others. It also draws others to him. Ties with others are interwoven with his very existence. These ties remain as he grows older and as he becomes increasingly able to take care of his physical needs. Indeed, as his world expands during the early months of infancy there is an increase rather than a decrease in the meaning and importance which other persons hold for him.

The ties that bind him to others are strengthened not only by what others do for him, but also by what he does for them. Under normal circumstances the baby arouses a powerful parental impulse in his mother. Even the father is likely to be moved by impulses and sentiments that were unknown to his previous experience. Parents differ, to be sure, in the degree to which a child draws them to himself. The impulse may be weaker in a parent who is physically exhausted or grievously ill or harassed by emotional concerns. But the impulses which draw a healthy and womanly mother to her child are undoubtedly among the most primitive and yet tender motives in the make-up of a human being.

THE CHILD NEEDS LOVE

This state of affairs is rather fortunate. The period of early infancy is a period when the child needs mothering. This does not mean that mothering in the sense of a strong love for the child will alone insure the child's welfare. Even at this age love is not a substitute for vitamins and minerals in the diet or for inoculation against contagious diseases. But the child is likely to thrive best if these and countless other details of his care are provided in an atmosphere of affection.

The relationships established between the infant and his parents not only have a bearing on the way in which he learns and behaves at the time but also will have important repercussions in the future. The bonds formed are important for the

child's welfare but they also may create problems. Part of the child's business of growing up is to begin almost at birth to move away from his complete dependence upon his elders. Part of the job of being a parent is to allow the child to stand more and more on his own feet. Even during the first few weeks of life developments are taking place which begin to prepare the child to manage his own affairs. By the time he has passed through late adolescence this process of development should have gone so far that the child who was is now competent to become a parent himself.

Later sections in this book will refer repeatedly to this process. It appears in the establishment of increasing capacity for self-help; in the establishment of the ability to think for oneself and more and more to sustain the emotional buffetings of life without support from others at every turn; and in the development of increasing self-sufficiency that renders the more mature person more or less immune to the vagaries of fortune.

PHYSICAL AND MOTOR DEVELOPMENT

In the development of the child from birth to about eighteen months, forces both of growth and of learning are at work. In this period we can trace many developments prophetic of processes which can be observed again in later periods of childhood or which illustrate educational principles applicable also to later periods. These will be briefly sketched in the following paragraphs.

One obvious change is a marked increase in physical size. There is a change not only in the over-all dimensions of the child's body but also in his physical proportions. Compared with the rest of his body his head is huge at birth. It continues to be proportionately large at eighteen months, but already the areas below the head have begun a process of increase in relative size which continues through adolescence, when the

youngster who once consisted of a big head on a little body with short legs is, comparatively speaking, a small-headed and long-legged person.

“DIRECTION” OF DEVELOPMENT

In this little detail of physical development we have a principle which applies, to some degree, to the development of behavior. Development tends to proceed from the head tailward. This is true not only with regard to physical dimensions but also with regard to function. The upper regions of the body have priority. At birth the arms are farther along in their development than are the legs. In the months following birth the child is able to carry on a tremendous number of operations with his arms and hands before he is able so much as to stand on his feet and walk.

There is a companion principle. Development tends to proceed from the axis of the body to the extremities. The child is capable of movements involving the large musculature of the part of the arms nearest the trunk before he can do much by way of separate movements of the wrists or the hands. Again, he is capable of hand movements before he is capable of fine coordination of the fingers. This is seen, for example, in the fact that in his first efforts to lay hold of a small object the child tends to corral it or to use what Gesell has called the “palmar scoop.” It is not until later that he achieves the fine coordination involved in picking up the object with his thumb and forefinger.

THE “BIG MUSCLE” FALLACY

These two items with regard to the direction of development from the head tailward and from the axis outward incidentally touch upon a practical issue that has recently received a good deal of attention in education. In many quarters it has been claimed that in the education of young children we should be concerned mainly with “large muscle”

activity. There is some basis for this notion, but it can readily be emphasized to a degree quite out of line with development. Actually, as indicated above, a child is capable of quite "fine" muscle activity—as in the use of thumb and forefinger to pick up a little object—before he is capable of "large muscle" activity such as is involved in walking, running, or dodging. Indeed, before they have reached the age of a year many children are capable of a large array of manual manipulations of a rather delicate sort. When we provide play materials or other forms of equipment by means of which children in early years can educate themselves, our choice should not be based on the question of whether this material happens to involve big or little muscles. As far as it is possible to do so, there should be provision not only for gross but also for finer movements. Given the opportunity, the child will make proper use of both in his own good time. This would still rule out forms of busy work entirely adult in their conception, which might be offered only on the mistaken theory that little children should be occupied only with little things.

LOCOMOTION

The period of infancy to about eighteen months sees tremendous expansion of what the child can do with his muscles. Among the most conspicuous series of changes in the motor sphere are those which lead to the ability to walk. These have many repercussions in the child's behavior as a whole, and they illustrate many principles of development.

They illustrate the role of growth. Walking begins to occur when the structures underlying the mechanics involved in the performance have matured to the point where the child is ready. The child walks in his own good time. We cannot hasten the process materially by trying to coach him, help him, or lure him on.

Walking also illustrates, as do many of the complex motor operations in later years, the impact of developments in one

sphere on other aspects of the child's life. Interaction between the various processes takes place even when each of these has a certain independence of its own. This independence can be seen, for example, in the fact that some children walk before they talk, while others talk before they walk. But whatever the order, each of these developments will have profound effects outside its own sphere. Some illustrations follow.

Frequently when a child makes his first ventures in walking he marks time in other activities. His progress in the use of language, for example, may cease for a time. Again, for a time he may abandon a number of activities with his hands in the handling of objects which fascinated him while he was still in the creeping stage.

Again, operations leading to the establishment of walking may have ramifications in the child's emotional life. This is seen most notably in some children when they have reached the stage of being able to pull themselves into a standing position, but have not yet acquired the knack of sitting down again. Such children will sometimes show outbursts of rage when they find themselves in this predicament.

WALKING INTO MISCHIEF

The onset of walking also has a profound effect on the child's career as a member of the family. The child is now capable as never before of invading all parts of the house. He opens latches on gates that previously restrained him. He wins access to things on shelves and in drawers that previously were outside his sphere of operations. In a sense walking initiates what might be called the bull-in-the-china-shop phase of a young child's career. Books and ash trays, pans, bottles, jars, tableware, tablecloths now become the object of his attention. What with the tampering, scattering, and occasional breakage, this is the time that tries the mother's soul even when she remembers that the child is moved not by a spirit of malice but by a spirit of adventure and exploration.

EVERY HURDLE A HAZARD

The establishment of walking also raises new problems with respect to the child's physical safety. If unwatched he may wander off. To earlier dangers of falling downstairs and off tables there are added the hazards of ledges, walls, curbstones, and traffic. When the child combines walking with carrying there are dangers of tripping.

As a child's ability to move about and to get into things improves, the temptations of the world and of the flesh increase. Now, if unwatched, he may try to taste the contents of medicine bottles, explore the flavor of plants and the varying colors of dirt. The calmest parent will have moments of apprehension. Even the parent who is resolved to let the child be as free as possible to learn for himself will have to struggle, again and again, against an impulse to interfere. Moreover, if the youngster is really an enterprising character there are many times when the parent will have to interfere. There will be many "no's" and "don'ts" in the most democratic home. If the parent is inclined to be irritable or impatient he is likely often to resort to heavy-handed discipline. If the parent is inclined to be anxious, he may go to great lengths to curtail the child indirectly by confining the youngster in a "safe" environment.

MOTOR LEARNING RELATIVE TO DEVELOPMENTAL LEVEL

As in walking, so in other motor activities the infant's changes in mode of operation show the influence of growth. The manner in which his method of climbing (up an inclined board, for example) changes as he progresses from creeping to the ability to walk is an illustration. While in the creeping stage the child's climbing shows the creeping pattern—he grips and pushes with his toes. But when walking has become established his climbing shows the walking pattern—he no longer has his earlier facility in gripping and pushing but has

to depend more upon his arms to pull himself upward. Climbing is grafted, so to speak, upon a creeping organism at one stage and then is modified to suit a walking organism.

Changes in the mechanics and proportions of the body similarly influence other motor performances, sometimes in a manner that an adult would not be able to predict if he judged solely in terms of what a person of adult stature finds it easy or difficult to do. In one study, for example, it was found that a child quite readily learned to roller skate while still in his second year. He learned to roller skate many months before he was able to make any progress in achieving the coordinated movements required in pedaling a tricycle.

Roller skating, it appeared, suited the bodily mechanics and proportions of the toddler. However, when this same child at six years tried to roller skate, after a period of disuse, he had to practice the skill anew in order to achieve the proficiency he showed at the age of two. The skill in maintaining balance and in maneuvering on skates, as acquired by a short-legged two-year-old, had to be relearned or readapted in order to serve a relatively long-legged six-year-old. On the other hand, it appears that the knack of pedaling a tricycle, once acquired at the age of two or three, does not require corresponding readaptations and so is retained relatively intact into later years.

After the first two years, the child's motor operations continue, of course, to be influenced by changes which take place in the process of growth. As he advances into the preschool and elementary school years, however, the range of his motor skills is influenced increasingly by his opportunities for learning, including facilities, tools, equipment, and the example and instruction provided by other children and by adults.

MENTAL DEVELOPMENT

In the period from birth to about eighteen months the child makes tremendous strides in controlling his own ac-

tivities and in controlling his environment. This process will continue in one way or another throughout the whole period of his development and, for that matter, throughout the span of his life. Many of the changes which take place are in the nature of gains in capacity for voluntary action. At birth much of the child's behavior is vegetative in character. To a large degree his world revolves around his stomach. Much of his time is spent in sleep. He becomes hungry, cries, is fed, he sleeps, he wakes, is hungry, and is fed again. In the meantime, nature has its way with him through frequent evacuations of his bladder and his bowels.

EXPANDING HORIZONS

Rapidly during the ensuing weeks he becomes able to participate more actively in the world about him. He becomes capable of coordinating his eye movements, of fixing his eyes upon an object and following its movements, and he rapidly learns to identify by sight a countless array of things. Similarly, a world of sound opens up to him. Through the "distance receptors" of sight and hearing he launches into the larger world even while he still is confined to his crib. This process continues, of course, in the years to come. The development of his visual activities carries so far eventually that much of what is in his mind is conceived by way of visual symbols, and in ordinary speech he, in due time, will say, as does an adult, "I see" when actually he means "I know" or "I understand." Through sight and hearing and other forms of sensory perception he begins the process of vicarious extension of experience so that, in time, his mind extends vastly beyond the limitations of time and space wherein his body is confined.

A major aspect of the child's advance in active mental operations is observable in his increasing capacity to respond to symbols and to make active use of symbols himself. The click of the door latch now serves as a symbol that his mother is coming. He stops his crying and behaves as if she already

were with him, whereas earlier it was necessary for his mother actually to enter his room and take him in her arms to accomplish this effect.

LANGUAGE

The development of response to symbols and the use of symbols is illustrated most dramatically in the development of language. By the age of eighteen months nearly all children understand a great deal of language. Most of them have used language of their own for some time in the form of words and in the form of other sounds and vocalizations which have meaningful intent even though they are not in the dictionary of any known tongue. The words the child hears and understands and the words he uses symbolize a wealth of meaning, just as did the click of the latch of his nursery door. With enlarging mastery of language he vastly increases his control of his environment.

ROUTINE HABITS

Most children during the first eighteen months of life are subject to intensive educational influences. Much of their education comes casually through the various pressures surrounding them. But even from the time of birth most children receive a good deal of education that is quite deliberate in nature. Everything that is done for the child, his schedule of feeding and everyday care, the manner in which others play with him and talk to him, the expressions of praise and reproof, the moods and attitudes of his elders, the do's and don'ts that fall upon his ears, the treatment he receives from other children, the opportunities to meet people from outside the household and the manner in which these people respond to him, constitute a portion and only a small portion of the educational influences that are brought to bear.

One of the many important aspects of the infant's education

centers upon the training he receives in the ways of civilized behavior in the home. He is undergoing a process of domestication which continues into later years. Much attention is given to feeding, sleeping, and elimination.

SOUND DOCTRINE ON BLADDER CONTROL

In promoting this phase of a child's education there is much that can be learned from the child himself. In training for bladder control, it is important to hold off until the child is ready. At birth the process of elimination is reflex in character. The child could not exercise control even if, by some fluke of nature, he decided it would be a good idea to try. The brain structures underlying voluntary control of the sphincter muscles are not ready to function at birth. According to available evidence many months elapse before they are ready. Until the child has the neural machinery necessary for taking an active part in the learning process, any learning through "conditioning" consists largely of an effort to impose on him a habit that belongs to someone else.

It is not possible to specify precisely when the child will be ready for toilet training. Children differ in their rate of progress in this sphere as in others. However, according to available evidence, the best clues are those obtained from the children themselves. In various ways children announce that they are able to begin to participate in toilet training through little signs which show that they are aware of the process of voiding the bladder, that they perceive the tinkle and have some notion as to its origin, show an interest in puddles, or, usually at a later stage, have certain sounds or words which serve as definite symbols for the process of urination. Such evidences are not likely to appear until about the age of a year.

SLIPS AND RELAPSES

Even after the child shows such signs, his learning may be slow, and whether the learning be slow or fast there are likely

to be many slips. The child may seem to have good control and then backslide. A similar phenomenon is seen in other aspects of development, as when a child perhaps walks a step or two and then does not do so again for a period of days or even weeks, or seems to have reached the stage where he is able to drink from a cup and then for a time seems to have lost the knack. Frequently in these and other developmental matters a youngster will make what appears to be a premature announcement that a milestone has been reached when actually the achievement is still in process of being established and is not yet ready to function as a regular thing.

Again, in bladder control as in other matters, children occasionally will show relapses even after the habit seems to have become pretty well established. Many factors may be at work to cause this, such as illness, fatigue, overexcitement, and strains of various kinds. After an unusually exciting day, for example, a child well past the infancy level may for the first time in several weeks or months wet his bed, suck his thumb, show "babyish" crying spells or temper tantrums, or demand to be spoon-fed. A similar falling back to a more infantile form of behavior may sometimes also occur if the child, for example, is jealous because of the arrival of a new baby in the family.

REGRESSION

The term "regression" is sometimes used to describe this phenomenon. Regression of one sort or another to an earlier mode of living may occur not only during infancy and early childhood, but at any time of life. Many motives concerning which the individual may not be fully aware come into play in such regression. In falling back upon an earlier form of behavior the individual may unwittingly seek to gain sympathy or to win attentions he earlier enjoyed. His regression may be in the nature of a retreat to a previous, and what to him was a more secure, form of existence.

FEEDING

Much of the child's early training centers around feeding. By the age of eighteen months most children have moved toward a diet that contains many solids, have acquired a number of teeth with which to chew these foods, and have passed from the phase of having to be fed to the ability to take quite an active hand in feeding themselves. Apart from the matter of nutrition the development of feeding behavior in children presents many practical issues. We shall take space here to consider only a few of these.

WISE BABY

One practical question touches upon the rather fundamental issue of how far we can be guided by the child himself in what we do for him. So far as feeding is concerned, how far can we trust his appetite? How wise are his own demands as to how much he wants and when he wants to be fed? Some interesting studies bear on this question. Two deal with the behavior of young infants, still at the breast or bottle stage, when put on a "self-demand" schedule. With certain minor exceptions the babies in these studies were fed not according to the clock but whenever they seemed to want food, whether this meant many feedings or only a few feedings over a given period of time and whether they took a great deal of food or only a little food at one feeding.

These studies indicate that young infants show what would seem to be a great deal of wisdom in these matters. For reasons residing wholly within themselves the infants studied would, at a given feeding, take only a few sips or drain a couple of bottles; the number of feedings they demanded varied from day to day. Intervals between feedings might occasionally vary from a matter of minutes to a matter of many hours. And yet, from day to day and from week to week these babies thrived when fed on a schedule which followed their own choosing as far as possible.

These observations are enlightening so far as they go, but it must be recognized that in a great many homes it would not be possible to adhere meticulously to a child's own timing.

SELF-SELECTED DIETS

Similarly interesting are findings in studies dealing with children who have been weaned and whose diet contains a variety of foods. In such studies it has been found that children appear to be able to make good choices. At a given feeding or even in feedings extending over a period of time a given child might make choices that seem quite bizarre. A youngster might consume about a half-dozen eggs or several bananas or, in connection with a certain feeding, consume what seemed to be unseemly quantities of table salt, and yet from week to week strike a good nutritional balance. In individual cases, which may have been exceptional, it appeared that children were almost uncanny in their selection. One child, for example, who was suffering from rickets, chose to consume large quantities of cod liver oil until his rickets were healed, and then he laid off the cod liver oil.

Findings such as these, like the results mentioned above, are subject to certain practical reservations before they can be generally applied. For one thing, in these studies, even though the children were free to make choices and to take as much of any article of food as they wanted, the adult still played the very important role of continually supplying articles of food which, in the long run, could provide a well-balanced diet. A regime of self-selection, in other words, would, if anything, require that the adult possess more rather than less knowledge of nutrition than is possessed by most parents. Again, it would be difficult in homes where there were only one or two children to supply articles of food from which a selection could be made without, at the same time, entailing wastage.

We cannot, accordingly, on the basis of these studies recommend forthwith that children of all ages, whatever their cir-

cumstances, be put on a "self-selected diet." However, findings such as these deserve serious consideration by adults who have children in their care. Much difficulty in children's feeding arises from rigid schedules as to time, rules with regard to eating between meals, the rule that once food has been put before a child he should lick his plate clean, the rule that every child should drink a quart of milk a day, and countless other regulations which tend to reduce mealtime to an arbitrary ritual. Some adults, on the theory that it is for the child's good, impose regulations which they themselves would never follow. Other adults have from childhood absorbed such regulations to the point where they would suffer discomfort rather than leave a half-eaten potato on the plate. Very often the rules that hedge the eating situation produce, even when they are not followed, feelings of guilt and strain both in the parent and in the child.

SELF-HELP

Apart from food intake, an important feature of feeding behavior is in the operations involved in feeding oneself. The child begins to play an active role in the feeding process long before he is able actually to bring a spoon to his lips or to drink from a cup. Involved in these operations are very complicated motor skills which become possible only through a process of maturation, coupled with timely practice. There is a complicated sequence of developments leading up to so seemingly simple an operation as drinking from a cup. It is not until quite late in the sequence that a child acquires the capacity not only to grasp the cup in his hands and to convey it to his lips but also to achieve the delicate coordination involved in tilting it as the liquid slowly recedes.

The child's behavior in the process of learning self-help in feeding neatly illustrates many interesting features of development. In this matter, as in many others, he is likely to try his hand before he is capable of a smooth performance. He feeds

himself with his fingers. In his first ventures with cup or fork or spoon he is likely to do much messing and spilling. If given the chance he will combine his motor efforts with other forms of exploration as he tries, with fascination, to pour solids and fluids together, to test their consistency with his fists, or experiments with the force of gravity by throwing the mess on the floor.

This situation is one of the many little battlegrounds in the child's struggle to assert his growing powers. He is seeking to use his growing capacities. He needs practice—which means room for making mistakes—in order to acquire competence. Eventually, however, for the comfort of others if not for his own sake, he needs to learn some of the more elementary rules of table etiquette. But in this as in all other aspects of his feeding behavior it is important not to insist on adult standards that go counter to his own developmental level.

EMOTIONAL DEVELOPMENT

From birth to eighteen months there are profound changes in the child's emotional behavior. At birth his emotional responses are quite generalized—he cries, frets, squirms, slashes with his limbs, and shows other signs which betoken emotional excitement of some sort. He is of course unaffected by many happenings which later will move him to joy, anger, fear, sorrow, or gloom.

CHANGES IN EXPRESSION OF EMOTION

With the passing months his emotional responses become more clearly differentiated into symptoms of anger, fear, joy, and quiet contentment. His expressions of emotion also become more clearly defined in their aim and direction. In his first outbursts of anger, for example, the infant may exhibit vigorous crying and bodily movements which seem to be directed at the world in general, whereas later his movements

are aimed more directly at the thing giving offense. In like manner, the child's first reactions to a pain stimulus—such as a pin prick—are likely to involve a variety of bodily movements, whereas later his movements become more localized so that he does not, for example, squirm all over but limits himself, perhaps, to a pulling away of the hand that is being pricked and an effort to fend off the pin with the other hand. In infancy as in all later stages of life, however, a person may revert to the more diffuse kind of response under severe conditions.

With this increasing ability to direct expressions of emotion more specifically at something or somebody, there is introduced another set of changes which continue, in one way or another, throughout life, namely, the ability to express emotion in increasingly subtle, varied, and indirect ways. Thus, a frown or a sharp word may function where earlier the child would hit. In the sphere of anger alone this process of substituting milder or more subtle expression for bodily attack goes to such lengths during ensuing years that an adult may be angered hundreds of times and yet never take a poke at anybody.

PARALLELS BETWEEN EMOTIONAL AND OTHER ASPECTS OF DEVELOPMENT

In the changes in the infant's emotional behavior we see the effects of developments in his make-up as a whole. In the course of his intellectual growth, for example, the child becomes increasingly able to notice things, and so, at the age of about half a year or thereafter, he may distinguish between a member of the family and an outsider and, for the first time, show fear when a stranger comes close to him or tries to pick him up. In like manner, the widened scope of his motor abilities brings him into touch with a widened range of occasions for anger, fear, or pleasure. The increase in his all-round ability not only thus widens the scope of his emotional

experiences, but may also make him immune to conditions that aroused him at an earlier time. The occasion for anger in the child who was able to pull himself to his feet but was not yet able to sit down again would pass with growing ability to do the latter.

EFFECTS OF EVERYDAY EXPERIENCES

The emotional behavior of the infant not only shows broad developmental trends, such as those noted above, but can be influenced by specific conditions that bear upon him from day to day. A startling douse of cold water, for example, or the pain of water that is too hot or the fright of being submerged and almost choking may "condition" the child against his bath, at least for a time. On the other hand, a child who is handled skillfully and playfully at bath time may come to regard bathing as one of the major pleasures of life. In this, as in countless other aspects of his everyday life, a child's emotions are being educated in quite specific ways. More subtly, and in ways difficult to trace, his emotions are also being educated by the emotional "climate" in which he lives—the degree to which his elders are tense or relaxed, moody or cheerful, irritable or placid, worried or complacent, solemn or boisterous.

SEX IN INFANCY

The fact that certain forces and phenomena which can be traced through various channels during later periods of life make their first appearance in early infancy holds true even in connection with aspects of development usually associated with a later period of growth. Developments relating to sex, for example, constitute one of the pre-eminent features of the adolescent period. Yet behavior that has reference to the sex organs, and quite likely certain attitudes with reference to sex, have their inception in the infancy period.

At an early age the genital organs of infants are not simply structures that are associated with elimination. In infant boys there occurs the phenomenon of tumescence resulting in the erection of the penis, and detumescence. A large proportion of both infant boys and girls manipulate their genital organs in a manner that resembles masturbation. Just what are the sensations associated with this act we have no means of knowing. The act can hardly be regarded as equivalent, on the physical side, to the complete act of masturbation as it can occur at puberty. Be that as it may, here is an activity centered in the genital organs, and to that extent it seems to represent a form of sex activity.

Such behavior is likely to attract the attention of the child's elders. These elders, by virtue of their past training, have certain attitudes with regard to matters connected with sex, and these attitudes in one way or another will be brought to bear on the child. Some adults may feel driven to use strong repressive measures. Others, who are less concerned or who look upon this behavior as something that is likely to be a transient phase of infancy (although the same kind of behavior may recur at later times), view the matter more complacently. Even in such households, however, the infant may come under the influence of adults who are much disturbed and who take steps to drive home some first lessons in sex education.

Just what impression these attitudes and behavior make upon a young child we have no way of knowing, but it seems reasonable to assume that adult counter-measures sometimes would have the effect of bringing the genital organs even more strongly to the child's attention than they were before and perhaps, in the case of an older infant, may have the effect of inducing in the child feelings of guilt. Whatever the effect, he will, already at this rather tender age, have been exposed to some of the many influences that go into the making of sex education.

EARLY EMOTIONAL EXPERIENCES AND
PERSONALITY DEVELOPMENT

Scientific knowledge of the role played by the infant's emotional experiences in the development of his personality and in determining his future emotional stability is quite meager in proportion to various sweeping claims that have been made on the subject. What little we do know is enough to suggest that emotional development in infancy is a matter of great importance. For one thing, when only a few weeks old infants show marked individual differences in their emotional tendencies. They vary in the extent to which they are quiet or outgoing, irritable or placid; some are much more easily "upset" than others. As noted in the following section, by the age of two or three children are likely to show emotional tendencies which distinguish one child from another and which seem to be quite strongly entrenched.

Limited studies suggest that inborn factors may predispose children at an early age to differences in emotional behavior and in the various qualities which we describe as a person's temperament. The hand of nurture also obviously is at work. We do not have sufficient evidence from which to generalize conclusively as to how the forces of nature and nurture interact upon each other, or how far, through the control of nurture, education might determine the course of development in this sphere.

The question of what can be done in this matter through parent education and other means during the months of infancy is certainly not an idle one in view of what education strives to achieve as the child grows older. The announced objectives of education at the elementary and later years often include emphasis on matters such as emotional adjustment, good citizenship, the "integrated personality," and the like. Everything that education offers the child once he goes to school will be received by the child in terms of what he already is. Education builds upon the structure that already has been

laid. If, as seems to be the case, important features of the personality structure have been established before the school usually gets hold of the child, we are, to a certain extent, trying to build a superstructure without having had a hand in the laying of the foundation. This is only one other way of saying that the farther we go in efforts to put into effect the larger objectives of education the more education should be concerned with the early childhood years. In the absence of such concern, much of what we seek to do with the older child may be in the nature of trying to undo what already has been done, trying to remedy weaknesses already established, or, what is also quite likely, trying to do something for the child that is out of keeping with his own nature.

The findings in child development do not offer a ready-made list of educational rules for dealing with this issue. The child development approach does, however, emphasize its importance. It also emphasizes the need for further research.

We now pass on to the next period. In the account of the preschool and later periods there will be occasion to weave in many lines of development which have their origins in early infancy, but which have not been touched upon in this chapter.

CHAPTER IV

THE PRESCHOOL YEARS

DURING the preschool years the child hits his stride as a learner in the many departments of life. The forces of growth so prominent in infancy continue to augment his powers, but the role of learning becomes more and more important as he moves from eighteen months to the age of six. In this period his accomplishments are influenced increasingly by what his environment offers. During the earlier months of life the impetus of much of his progress came from within. He had to wait until he was ripe for walking. Little could be done to hasten the development of the basic coordinations involved in the use of his hands and fingers. But when these foundations are once established, the skills that the child builds upon them depend increasingly on the opportunities that come his way.

DEVELOPMENTAL ACHIEVEMENTS

By the age of six a child has been initiated into most of the major forms of experience that can befall a human being during his lifetime. He is now a creature with rather good powers of reasoning. Where earlier he lived in a mental world that revolved primarily round the present, he now is capable of vivid memories of the past and, through his imagination,

can project himself into the future. He has had a taste of the bitter and the sweet of human emotions. He is able to worry about the future and feel remorse about the past. Where the feelings of the eighteen-month-old child centered primarily on the here and now, the six-year-old is able to borrow from the troubles of tomorrow, to feel angry at the prospect of thwarted plans, and to thrill with joy at the thought of a coming event. He has moved far into the social life of the world. Where earlier he was capable only of fleeting interest in other children, he now has been initiated into much of the give-and-take of social intercourse. He realizes many distinctions between other persons and he is drawn more to some than to others. He has had the experience of friendship, of being a follower or a leader or both. To a greater or lesser degree, he has had the experience of jealousy. He is versed in many forms of competition and he knows what it is to exult as a winner and to feel vexed or disappointed when bested by someone else.

At eighteen months he had to be helped with his eating, dressing, elimination, and grooming. Now he is quite a domesticated person and not only takes care of most of these things himself but is able to take many additional responsibilities by way of little jobs around the house, errands, and the like.

In his motor development the youngster who at eighteen months walked rather unsteadily and had limited manual ability now possesses motor skills that are almost countless in number.

THE SOCIAL LIFE OF THE PRESCHOOL CHILD

Among the most conspicuous features of the period from eighteen months to six years are the developments that take place in connection with the child's dealings with other people.

At the beginning of this period his daily life revolves very much round adults. He is attracted by other children, but his dealings with them are likely to be in the form of brief interchanges. Except for short periods, other children are not likely to supplant his elders as the focus of his attention. He is still socially dependent on his elders, just as he is very much dependent on them physically. The process of weaning is quite incomplete. By this time he is likely to have been weaned from the breast or the bottle for several months, but he has not been weaned from his mother's care. By the end of this period this process of physical weaning has neared completion in the sense that the child can take care of many of his own physical needs, but the process of "psychological weaning," to use L. S. Hollingworth's term, will not, in the normal child, be complete for many years to come.

RELATIONS WITH ADULTS

DEPENDENCE-INDEPENDENCE

In much of the social interaction between a child and his elders at the beginning of this period, the youngster seeks help, comfort, and company. He is likely to call attention to himself frequently. He leaves his own projects repeatedly to be with the adult. He still likes to nestle, nuzzle, and cuddle. From time to time as the mood strikes him he will go out of his way to show and to seek affection.

But while he is thus beholden to his parents there is another quality that becomes prominent in his relations with his elders. In many of his dealings he is asserting himself as an independent person. His self-assertion takes many forms. He experiments with methods of having his own way. His experiments may range from little forbidden acts to gross disobedience. He may perform such experiments in a mood that ranges from playfulness to seeming malice. Some time between the

age of one and four most children go through a phase when they assert themselves by doing forbidden things and by various forms of resistance and obstinacy that frequently are puzzling and annoying to the parent. At table the child may ask for a certain item of food and then, when he has it, announce that he does not want it. He may ask his mother to put on his wraps so that he may go outside, and then when this labor is done, ask to have them taken off, and when this is finished, once more insist on the wraps. Some of the most sophisticated forms of resistance come by way of language. For example, when the father happens to say that he had four brothers and sisters, the youngster may stoutly respond, "No, you didn't, you had forty-eight." Again, the grandmother has just brought a doll, but the youngster, knowing this, insists it was her uncle that brought it.

MORE ABOUT SELF-ASSERTION

Resistance may be limited to certain repeated acts of stubbornness or it may become so pronounced that it seems to permeate nearly all the child does. In extreme cases it may go so far that the child refuses food to the point where the parents fear he will starve. Such a condition, however, is exceptional and it probably means that something is wrong in the way the child is reared. However that may be, it would seem that the germ of selfhood, in order to grow, requires the experience of opposing the self to other selves.

The phenomenon of resistance in milder or in severer forms appears in practically all children. It is so universal that it would seem to be a normal feature of the development of the self and of the development of techniques of social behavior. It is difficult, however, to judge the extent to which the resistance of children is something natural or necessary in their development and the extent to which it is a product of the way adults deal with children. The research on the subject does not offer a definitive answer. However, it is possible to

identify many of the factors that come into play. Resistance seems to be a product both of something in the nature of the child and of the way he is handled. Certainly a child's drive to assert himself may be regarded as something natural rather than as something he has to acquire. On the other hand, the particular ways in which this motive expresses itself will be influenced by the environment, including, notably, the extent to which the child is subjected to strong-arm, arbitrary methods or is treated in keeping with his status of development.

There will be occasion for opposing the parents, however, no matter how gentle and wise they may be. It would be impossible completely to spare the child from thwartings and what to him may be arbitrary rules. There are times when he must be restrained for the sake of his physical safety. An enterprising child will get into a great many situations without fully realizing what the consequences may be. There are times when he must be restrained to protect other people, to prevent the destruction of property, and to prevent bad blood between neighbors.

LESSONS IN CONFORMITY

There is not space to elaborate upon this matter or to discuss the mental hygiene aspects of it. It is not amiss to point out, however, that from early childhood, and certainly long before the youngster reaches the first grade, he has gone through a great deal of schooling in the ways of conformity to the demands of his environment. If this were not the case we would never, for example, behold the spectacle (usually taken quite for granted) of thirty or forty first-graders adapting themselves docilely to classroom routines. When a child is six, parents and teachers capitalize in countless ways on lessons in conformity the youngster has learned during earlier years.

The phenomenon of resistance, or what may seem at times to be willfulness and perversity, is not, of course, limited to

early childhood. The normal child keeps up the good fight during ensuing years. In times of stress there may even be a recurrence of a seemingly quite unreasonable form of resistance. This is notably true of some children as they enter the adolescent phase. But as the child grows older there normally are changes in the way in which he asserts his will. As in the expressions of his emotions in general, he learns to use more subtle techniques of self-assertion. Again, as he grows mentally and reaches the level where, as the saying goes, we can "reason with him," he comes to realize that many restraints were not as arbitrary as they may earlier have seemed. Moreover, in the process of learning to live with others he discovers that it is not expedient to make an issue of too many things and, what is more important, he discovers an increasing variety of means of getting his own way. In the meantime, also, his parents will have learned what they can get away with. The adjustments that go with a decline in the more obvious forms of resistance are not made by the child alone but also by his parents.

In passing it may be noted that while some of the forms of resistance which appear at two or three or four normally wane, there are individual children in whom the more infantile ways of resistance persist into later years just as there may be a persistence of other infantile characteristics if things have gone wrong. So it is that we may find even in a mature adult a curious streak of negativism in the form, say, of taking issue with nearly everything that others say even if the matter is quite unimportant, or in a stubborn refusal to see the point.

PUTTING ON THE SCREWS

Resistance arises at least in part as a symptom of conflict between developmental and cultural forces. Every society, primitive or modern, places certain demands for conformity on its members. The business of living in a world where there are many other people and where there are many established

customs demands that the individual acquire forms of behavior which would not arise spontaneously within himself. This fact is pointed out in an earlier chapter where it is noted that the education of the individual child cannot be founded solely on developmental tendencies with the child. The culture in which the child lives will make demands that are inescapable.

It also is true, however, that the cultural standards may in themselves be unwise or quite out of line with the child's capabilities. The more the requirements of the culture are out of line with the child's own nature, the more difficult will it be to put these requirements into effect. Moreover, whatever the cultural standard, it will best be achieved if its demands are scaled to the child's growing capacities. Eventually, for example, we want a child to be reasonably tidy, careful of property, respectful of the possessions of others, truthful, persevering in effort, but these virtues are not likely to thrive in a wholesome way if they are imposed upon young children in terms of absolute adult standards.

SMILES AS WELL AS FROWNS

When we take note, as above, of various forms of self-assertiveness in the child's dealings with his elders, this does not mean, of course, that such behavior is predominant in the normal behavior of a child. Actually, even when a child does a fine job of resistance, the occasions when he not only complies with the wishes of his elders but actually takes the initiative as a helpful and friendly person are likely far to outnumber the occasions when he balks. Such helpful behavior, however, often comes to be taken for granted.

Moreover, even while the child most sturdily asserts his own individuality he continues, as in infancy, to count heavily upon the affection and loyalty of his parents. Also, as was true in infancy, the parents' basic attitude toward the child counts for much more than this or that technique of discipline. So it is

that a child whose parents are genuinely fond of him will be much more secure and spontaneous even though his parents occasionally spank him than another child whose parents never spank but are not completely devoted to him. Further, the mutual feeling that parents and children have toward each other cannot be judged simply by the extent to which they do not get into each other's way. The child who feels solid in his relations with his parents is likely to be considerate of them in many ways, but he is also likely to feel free to misbehave. This holds true also in later years in a child's relations with other adults. The child who is confident of the friendliness of his teacher will feel free to be ornery at school at times just as he is at home. Even so, he is likely to be a good deal less ornery at heart than the child who thinks his elders are against him or don't care much for him.

RELATIONS WITH OTHER CHILDREN

In the period from eighteen months to six years, the child's dealings with other children assume increasing importance. If given a chance, the child makes marked progress in a line of social development which will continue until he is mature, namely, the building up of relationships with people outside the home. These relationships become increasingly important to him as he grows older. They represent a part of the process whereby he moves from complete absorption with matters in his own home toward the establishment of a life of his own outside the home. While this feature of development has its inception during the preschool years, it is not as pre-eminent in the child's life as it will be during the middle and late elementary and the high school years.

In their dealings with others, children move by progressive steps that are more or less characteristic of all children. At the age of about two, as we have noted, their social contacts tend to be of short duration and of a simple nature, just as in their

own projects they tend, at this age, to move from one thing to another without persisting long in one enterprise. Moreover, in their first social contacts there may be a good deal of watching what the other child does, as distinguished from actually joining him. Again, youngsters may exhibit a good deal of what might be called "parallel behavior": they are drawn together in space, they may be doing the same things, but there is not the give-and-take and the merging of individual activity into a joint activity which we see at a later time.

The changes in children's social dealings with each other as they grow older take many forms. They are likely, when occupying the same quarters, to spend more time with each other, to maintain contact for longer periods at a stretch, and they show increasing ability to fraternize not simply with one but with many children at one time. These lines of development, however, are far from complete by the time a child reaches the age of six, for at this age youngsters are not able, without adult help, to operate in social groups as large as the enrollment of the usual first grade class.

SELF-ASSERTIVE BEHAVIOR

In his dealings with other children, as in dealings with his elders, the child shows himself to be an individualistic as well as a sociable creature. On the one hand, he fraternizes with others, learns to join in give-and-take, and by the age of six is quite skillful in many forms of cooperation. On the other hand, he guards what he considers to be his own rights, claims possessions as distinctly his own, and frequently resists or combats the encroachments of others. In one group of nursery school children it was found that aggressive behavior in the form of actual snatching, pushing, and the like, or of verbal provocations occurred at about the rate of once every five minutes per child. Such behavior, ranging from fisticuffs to argument and bickering, is a normal feature of the social behavior of children at this age.

Many factors are involved in such behavior. Frequently it occurs without malice aforethought. In his dealings with children, as in his dealings with adults, the child does a good deal of experimenting. He lays hand on others' property to see what will happen. He may even take an experimental poke at another child. Again, many disputes occur quite accidentally, as when children unintentionally get into each other's way. By and large, the more enterprising a child is, the more he gets around, the more occasions there will be for a tussle. There is also the interesting finding that children tend to bicker most often with the youngsters they seem to like best. The reason is that the more time a child spends with another youngster the more occasion there will be both for friendly interchange and for dispute.

Occasionally bitter feelings come into play, as when children go out of their way to punch each other or, as sometimes happens by the age of three or four, gang up on another child. Moreover, hostility in a child's dealings with his peers will be influenced by other currents in his emotional life, such as jealousy in his relations with members of his family, a strong desire for attention, and the like.

CHANGING TACTICS

In his combative behavior as in other aspects of his social behavior certain developmental trends can be noted. As the child advances from the age of two to the age of six, he is likely to do less hitting and more talking in his disputes with others. He becomes more adept at avoiding occasions for conflict (unless, for reasons that may be independent of his social contacts with children, he has a chip on his shoulder). He also becomes more adept in using refined techniques of combat or self-defense, among these ignoring, bargaining, diverting and bringing the weight of precedent to bear, such as "I had it first," "It's my turn." Even at an early age a child may be deterred by the discovery that there are some child-

ren who can outfight him. As a result, there tends to be a decrease with age in physical altercations although youngsters at six and thereafter are likely to continue on occasion to use their fists.

SOCIAL TECHNIQUES REQUIRE PRACTICE

Social dealings with others, whether they be friendly or combative, involve many techniques and skills much as do the performances of riding a bicycle or tying one's shoes. The techniques which a child uses to hold his own with other children involve skills which must be learned. Limited evidence indicates that if adults take a hand and never allow children to settle their disputes in their own way, such youngsters may at a later age, when left to their own devices, use techniques which they would have learned to abandon had they been free to learn at an earlier time.

In a study of children's conflicts with one another it was found that teachers in one nursery school interfered with children's own ways of settling their squabbles to a greater extent than was true in another nursery school. Partly as a result of this procedure there was less fighting in this school than in the other. The next year, however, the children moved on to kindergartens where a good deal of freedom prevailed. The children who earlier had had their fighting curtailed now did twice as much hitting as the year before, while the children who had been relatively more free to act during the preceding year showed a decline in their hitting. A finding such as this does not mean that children have a certain amount of fight in their systems that has to be worked off. It seems to mean that it takes practice to learn the techniques normally substituted for physical combat as children grow older.

SIMILAR BEHAVIOR MAY SERVE DISSIMILAR PURPOSES

Combative behavior in children, incidentally, offers a good illustration of the fact that a given form of behavior may serve

a variety of purposes and function quite differently in the lives of different children. Thus, an outcropping of aggressiveness may be an encouraging sign in one child while in another it may be a symptom that things have gone wrong. For example, in one study two children showed an increase in their combativeness as compared with their own past behavior and that of the group as a whole. One of these youngsters had previously been dominated by another child and was trying to break away. In the process of building good social contacts with a number of other children she had to fend off the attentions of the child who had dominated her, and it was this that caused an increase in the frequency of her combats. The more she succeeded in breaking her own bonds, the better was her situation in the group as a whole.

Quite a different state of affairs obtained in the case of the other child who also showed an increase in combative behavior. He had lost his hold on a former close companion and when he set out to establish connections with other children he used rather bossy methods. These were resented, with the result that other children would try to get rid of him, and at this he would fight back. But by fighting back he increased his difficulties.

The forms of self-assertiveness described represent, of course, only one feature of the child's social activities. The normal youngster who asserts his rights is also the youngster, as was noted earlier, who enters into countless contacts of a friendly sort. Indeed, research evidence indicates that though various forms of combative behavior are frequent they are far outnumbered by friendly dealings.

COMPETITION

By the time children reach the age of six most of them have grasped the idea of competition, and competition enters into their play just as do various forms of cooperation. Before the age of three many youngsters show some knowledge of the

idea of competition and exhibit certain forms of rivalry; but behavior of this sort is likely to be more prominent at four and five than at three. It may appear in a variety of forms, such as assertions of superiority: "I am bigger"; "I am four, you're just three"; "My daddy has four cups of coffee for breakfast" (as a retort to a child who has claimed his father has three). It may take the form of efforts to corner or monopolize things, such as gathering to oneself a lion's share of the blocks or crayons. It may take the form of keeping an eye on the other's performance and comparing it with one's own, and of actual tests of ability and skill. The desire to outdo others may also take the form of boastfulness, exaggeration, false claims to achievement, and the like.

The intensity and forms of the child's competition will be influenced, of course, by many factors in his life, such as tensions within the family, emphasis on competition in the home, such as the practice of holding up another child as an example, and any circumstance which gives the child the notion that the way to get attention or to be somebody is to excel somebody else. It would be easy to put a finger on many conditions in our culture which encourage competition, even at the early age of two or three. Moreover, the things for which people compete, obviously, will be influenced by the culture. However, to ask whether children have a "natural" tendency to vie with one another or whether such behavior is entirely a product of the culture would carry us far into the field of speculation. From an educational point of view it is wiser to deal with competition as a fact rather than as a theory and to ask how this form of social behavior can be utilized to the best advantage of the individual and the group.

The values and abuses of competition will be dealt with further in the discussion of the child at elementary school age.

LEARNING THROUGH COMPETITION AND EMULATION

In passing, it may be noted that even during the preschool

years competition in one form or another is involved in much of the education children receive from their peers. Beginning at the age of two, if not earlier, children are much influenced by the example set by other children. A note of "I can do it too" can often be observed in the behavior of youngsters when they are together. One chins himself on the dining-room table and the other now does likewise, for the first time, although there had been plenty of opportunity before when he was alone. Again, a child may drain his milk and clean his plate when he sees another youngster do it, whereas earlier he had been inclined to dawdle. In this manner, a youngster's behavior may be influenced in countless ways, ranging from situations where the motive of competition seems obvious to situations in which the desire seems not so much to equal or outdo as to play the game.

MOTOR DEVELOPMENT

WIDE RAMIFICATIONS OF MOTOR SKILLS

The gains occurring in motor abilities in the period from a year and a half to six years have important effects on all aspects of the child's everyday life.

The child acquires a vast array of motor skills in matters of self-help which have an important bearing on his competence as a person and on his relations with his elders. The skills he acquires in running, skipping, climbing, tricycling, and numerous other play activities provide the basis for a large proportion of his social dealings with other children.

Competence in physical activities also has an important bearing on the child's emotional life. His physical activities provide a source of pleasure. His ability in such activities affects his self-confidence; by virtue of skill in the use of his muscles, he becomes able to deal with physical obstacles that otherwise would thwart him and arouse anger, and to face or participate in many situations that otherwise would scare him.

MATURATION AND LEARNING

At the beginning of the period here under discussion (age two or thereabout), children are still in the process of consolidating some of the basic coordinations involved in the use of their arms and legs. Already at this period, however, they have gone far toward building up a number of specialized skills. With advancing age during the preschool period the child's motor development takes place increasingly by way of branching out into a wider and wider range of skills that have to be learned. The older he grows the more dependent does his motor development become on opportunities for learning.

His development is still, of course, influenced by the factor of growth as well as learning. Not only does he grow bigger and stronger, and undergo changes in bodily proportions, but the process of growth also brings about certain changes in bodily mechanics that make a difference in the way he goes about things and in the extent to which he will profit from practice.

One little motor operation, for example, that is rather important in connection with the learning of self-help is the operation of buttoning. Despite the advent of zippers, children's clothes of today still require a good deal of buttoning. For the child to manage this buttoning himself is quite an advance for him and a convenience for his mother. Even in this operation, however, we must wait for nature to take its course before the child can master the art. In one study, two-year-old children were given the opportunity and encouragement to button buttons. At the end of several weeks of practice of this sort, they did not do an appreciably better job of buttoning than did another group of two-year-olds who had not been "trained." In due time, however, youngsters will try their hand at buttoning on their own accord and gain considerable skill.

Changes brought about by maturation, as distinguished from practice as such, can be noted in connection also with

other performances. Skipping is one of these. In his first efforts to skip, the child is likely to hop with one foot and run with the other rather than to achieve an alternation of hops. At this stage a youngster may become irritated if an adult tries to get him to do the regulation skip. At a later time, when this same youngster is "ready" for skipping, he quickly masters the art.

Changes in capacity brought about by growth as distinguished from practice are illustrated also by tricycling. The knack of pedaling by means of opposing movements of the legs is something that children usually are unable to acquire until many months after they have learned to walk. Before the child is "ready" it does little good to place him on the seat and to help him through the motions of pedaling. But at a later age this youngster may acquire the knack of pedaling with relatively little practice.

The proposition that what we provide by way of motor education should be suited to the child's readiness unfortunately raises more questions than it answers. Research studies offer some findings with regard to readiness for various motor performances, but these findings deal with such a limited number of activities that they hardly begin to tap the subject.

UNEXPLORED POTENTIALITIES

Our interest in the motor development of the preschool child is not limited simply to the question of the skills which may be more timely at a later than at an earlier stage of growth. We are interested quite as much in the larger question of what are the motor potentialities of children at any age within the preschool period. We can answer this question in part simply by everyday observation of what children can do. In addition, there are some systematic research findings showing what children can do. But the evidence from studies of nursery school children indicates that research workers and educators alike have barely made a start toward a systematic

inventory of the motor potentialities of the preschool child.

In one study it was noted that by the age of about three and a half children in nursery schools had substantially mastered most of the main items of motor equipment that a nursery school customarily provides by way of apparatus for climbing and sliding, wheel toys, swings, and the like. So far as motor learning was concerned, there were no new worlds for these youngsters to conquer. Limited evidence such as this suggests that older children in a nursery school with conventional equipment reach a point where they are marking time. They are repeating performances they have already mastered. Where such is the case, it is likely that the youngsters would be only too glad to try their hand at new or different things.

This raises a question: What are the new and different things that might be added? An adequate answer would require more research and more educational experimentation than has been undertaken to date. Such research and experimentation should, of course, go farther than simply to discover the range and variety of skills that children in this age range are able to learn. Even with a full inventory of feats that children could acquire we would want information on points such as these: skills useful primarily in themselves as distinguished from skills of possible service in connection with a child's social activities and intellectual enterprises; skills useful primarily only for a limited time span as distinguished from skills of possible value in the future.

SCALING TO SIZE AND CAPACITY

A child's ability to acquire and enjoy a motor skill is influenced, of course, not simply by the mechanics of the operation but also by the nature of the equipment provided. Thus, a youngster may be "ready" to learn how to propel a tricycle, but obviously fail if his tricycle is so big that he can't reach the pedals. He may be "ready" for quite complicated ball play, but fail in catching a small ball in his hands when he would

succeed in catching a large ball in his arms. He may seem incapable of washing and drying his hands, but the reason may be that the equipment is not suited to his strength and reach. He may fail if he tries to saw with a poorly made saw, or hammer with a hammer that no adult would use, whereas he might get a taste of success and a spur to further learning had he a saw, suited to his size, that would bite into the wood, and a hammer designed to be an efficient tool.

The suitability of the equipment not only will make a difference in what a child can do but it may also affect his future attitude toward motor enterprises. Thus, an unsuccessful or painful experience with a hammer that will not hammer, or a swing that soars too high, may discourage a child from further experimentation.

IMPORTANCE OF MOTOR LEARNING

At the risk of being repetitious, it is appropriate again to stress the repercussions of motor activities on other aspects of a child's daily life. Much of a child's increase in self-help during the preschool years takes place by way of his mastery of the motor activities involved in such matters as dressing, feeding, getting in and out of bed, turning lights on and off, bathing, fetching, carrying, tying and untying, pinning, buttoning, opening and closing cupboards, carrying without losing or spilling, taking the telephone off the receiver and putting it on again, avoiding collisions with other persons in the house or on the playground, etc. Progress in these matters is an important feature in the child's growing independence.

Again, as has been noted earlier, a child's social contacts with other children depend heavily upon motor activities. If the youngster is lacking in the skills which figure prominently in children's play, he is barred from many social contacts. When others climb, he remains below; when they use the slide, he can only watch; when they coast on a sled or wade and splash in a pool, he can only look on. Motor activities also

figure importantly in many intellectual enterprises: it is partly through manipulation of materials that the youngster acquires concepts of size, shape, number, weight, and gains a working knowledge of gravity, balance, and proportion.

Motor skills also have a conspicuous bearing upon a child's emotional behavior. Through increased control of his physical environment, he circumvents or solves problems which otherwise would thwart him. Where previously he was angry when unable to push a carriage over a door sill or when unable to turn his wagon around in a small space, he now meets these hurdles without trouble. He also will manage many situations which might produce fear. When able to turn on lights, to open doors to let himself in or out at will, to climb up and down heights, to turn off a loud radio, to "catch up" by running if he falls behind on a walk, he has means of coping with situations which otherwise might elicit fear of darkness, falling, noise, being lost, and the like.

While a child's motor competence thus has certain repercussions, it also is true that happenings in other aspects of his life will, on their part, have an influence on his motor skills. For example, a jealous youngster may refuse to do things for himself, not through lack of ability to learn but through a desire to get the kind of attention given to a younger brother. A youngster may fail to acquire or to use the play skills of his age group by reason of shyness rather than lack of ability to master the skills as such. Again, any happenings which produce fear, lack of confidence in self, or distrust in others may bar a child from plunging into activities which he could handle quite ably if he were not emotionally blocked.

INTELLECTUAL DEVELOPMENT

During the period from eighteen months to six years the child comes into his own as a thinking creature. The development of his mind opens up new worlds and widely extends his powers.

THE WONDERS OF LANGUAGE

Mental growth during this period is revealed most strikingly by the child's use of language. He may acquire a vocabulary ranging from several hundred words to several thousand. Through language he can express his curiosity and feed his voracious appetite for information about the world in which he lives. Language also becomes an important tool in his social life, and it serves increasingly as a means of expressing his emotions.

In the progress in the use and understanding of language which occurs during the preschool years we have a demonstration of the remarkable amount of learning achievable with a minimum of formal teaching. Granted someone to talk to, the child exercises his language skills and continually presses into new ground. He acquires new modes of expression and modifies older forms. His speech becomes more articulate. Granted an example of good language, he sloughs off many imperfections or errors acquired on an earlier day, such as misplaced consonants ("B for Bictory"), mispronunciations (pickin' and aminal for picnic and animal), and erroneous (although in many respects quite logical) grammatical forms for number and tense (foots, borned, deaded, etc.).

Though a child's language comes about without formal teaching, a teaching situation is, of course, still involved. Just as he can learn rightly from a good example, he can also learn wrongly from a poor example. As a result, when a child comes to the first grade, he not only may have to learn much that others already know but may also have to unlearn much. Moreover, a child who has had a chance to talk a good deal to adults, or to older children, will have an advantage, other things being equal, over a child not so situated. Further, language development, like behavior, may be influenced by other currents in the child's life, such as shyness, fear of making mistakes, lack of freedom to ask questions, and the like.

THE BUDDING SCHOLAR

Apart from mastery of a large volume of spoken language a child usually acquires many learnings related to reading and writing before he reaches school age. If given a chance, he learns many uses of books. He becomes able to identify innumerable pictures, to follow a simple story told by pictures, to page through a book, to hold it right side up, and to follow the contents from left to right across the page. Many children also, without anything resembling systematic training in reading, learn to identify a number of letters and words. A small percentage will make strong efforts of their own to learn how to read, and will acquire considerable amount of competence before they reach the first grade.

A WORD ABOUT READING

The subject of reading as an educational problem will be considered in Chapter V. It suffices to say here that on the basis of available evidence the teaching of reading as a systematic project is not timely for most children of preschool age.

This does not mean that we should bar children from contact with a number of "prereading" activities, such as those mentioned above. Nor does it mean that we should go out of our way to divert a child who shows unusual aptitude for reading unless, by chance, such a child might be using reading as an escape or a substitute for other wholesome activities. It does mean, however, that we should not be ambitious to push children at this level into reading. On the one hand, to press the child prematurely may build up unfavorable attitudes toward reading. On the other hand, given time to mature, the youngster at a later age is likely to learn in a short time, and with less effort, all he might earlier have learned at the expense of much time and labor.

REASONING

From an adult point of view, one of the most gratifying

features of intellectual progress during preschool years is the development of the child as a person with whom one can reason. Increasingly from two to six the child becomes able to understand and accept the reasons for things. Increasingly, also, he acquires the ability to give reasons for his own stand. To be sure, he is not at six, nor will he ever be, a creature who fully understands the logic of things. Nor does he ever become a creature who will be governed solely by reason, even in matters that he does understand. But by the age of six he is able to deal with much of life on a level of ideas.

The child's increasing ability to grasp reasons and to give reasons of his own has many consequences. When earlier he had "reasons" in the sense of unphrased motives, desires, or wishes, often difficult for an adult to fathom, regarding what he wanted or did not want, he now can express himself verbally, at least in part. True enough, the reasons he gives after he has become articulate are sometimes as baffling to an adult as were his unspoken concerns of an earlier day, but at least there now is an opportunity to talk things over.

One result is that a number of everyday happenings can be made to seem more reasonable both to the adult and to the child. For example, a youngster at eighteen months may refuse the oatmeal which usually he eats with relish. His puzzled mother thinks he is either quite perverse or off his feed. Actually the mother may have forgotten to put the customary salt in the oatmeal and the child does not like the flat flavor. At six, and even before then, the same child can explain, and the issue can quickly be settled with a pinch of salt.

Examples could be multiplied many times in connection with the practical details of parent-child relationship. One result of the child's increasing ability to understand is that much which earlier must have struck him as arbitrary now can be made to seem reasonable. Another result is that the child can learn, at least in some matters, to accept the inevitable. Where earlier, for example, he would complain if

his pudding dish were empty and refuse to accept the fact that there simply was no more pudding, he now can appreciate the fact that strong protests cannot create pudding. This example illustrates one of the many little lessons which contribute to acceptance of reality. While we recognize this, we must also recognize that although some lessons of this sort are learned by the age of four or five or six, many other lessons in the acceptance of reality still remain to be learned at ten or twenty or sixty or eighty. With the changing tides of life, new issues present themselves and the individual is repeatedly called upon to understand and accept the forces that are at play.

ADVANCES IN THE FIELDS OF LOGIC AND SCIENCE

Along with increases in the child's ability to see the reason in matters which directly affect him, there also are advances in his ability to understand the logic of things in the world at large. At six his fund of information is, of course, quite limited as compared with his knowledge of later years, and, in consequence, his insight into the workings of the world will be spotty. But, when on familiar ground, he is capable of both deductive and inductive reasoning and can grasp the notion of cause and effect.

This does not mean, of course, that he approaches every problem with scientific acumen. The child who gives a rather logical answer to one question may give a fanciful answer to another. Thus, when he sees a pebble dropped into a beaker of water and the water rise and overflow, the five-year-old's explanation may be that the stone takes up room or takes the place where the water was. This gives a good naturalistic account of the phenomenon. The same child, on another question, may give an answer that seems artificial or unscientific, such as that clouds stay up in the sky because they're hooked to the sky or maybe a giant holds them up.

Thus, while the child at six, and also before that age, is

capable of reasoning of the kind involved in the thought processes of adults, he is not, of course, scientific or logical in his approach to all things. He gives play both to logic and to fancy, to disinterested reasoning and to wishful thinking. He may play in with the notion that it is Santa Claus who fills his stocking and yet shrewdly remind his father and mother not to forget something that he wants for Christmas. His grasp in some matters may be wise and in others his notions absurd and bizarre. The same holds true, of course, of older children (and adults). The older child, with a larger store of knowledge and a larger fund of experience, can reason effectively about many things which would have stumped him at the age of four or six. But he is also likely to resort to a variety of illogical and unscientific answers when faced with problems beyond his depth.

From an educational point of view it is important to appreciate the fact that the preschool child is a reasoning creature, and yet recognize that the range of his knowledge and his concern with matters in the large affairs of the world are limited. While he occasionally makes comments about abstract and remote events (such as inquiry about the meaning of abstract words or questioning about happenings in distant places during a time of war), most of his intellectual concerns lie close to home.

Within this territory, however, he learns a tremendous amount. Given opportunity he can build up a large fund of information in the spheres of human relationships, nature study, mechanics, community life, occupations, and the like.

CHILDREN'S QUESTIONS

The accumulation of knowledge during preschool years takes place both through countless incidental impressions as well as through the child's own active efforts to learn. As soon as he can say a few words, and even before he can speak in sentences, he launches a barrage of questions. His inquiries become increasingly complex and varied as he grows older. Al-

though a mixture of motives, including a desire for attention, may come into play, his questioning serves mainly to express his curiosity and to obtain food for his intellectual appetite. His parents are pressed into service as teachers and he views other friendly adults as fair game.

The handling of these questions by adults is a very important feature of the education of the preschool child. The job involves a good deal more than simply handing out items of academic information. The attitude of the answerer is in many ways as important as the answers supplied.

This is all the more true by reason of the fact that many emotional currents enter into the question-answer situation. The adult may be sorely tried when, at times, the child's questions seem unduly stupid or perverse, or when he repeats the same question again and again, or questions and then seemingly fails to listen, or shows annoyance when the adult tries hard but fails to get the point of the question, or continues to push his inquiries after the adult has become weary. Again, the adult may rebuke rather than encourage the child's quest for knowledge by being very condescending or sarcastic or by treating a serious question as a joke. Further, if the adult is evasive or intellectually dishonest, he may not only weaken the child's confidence but induce the child to go elsewhere for his answers. In this matter as in others the adult must exercise common sense.

The child's curiosity during this period is expressed in other ways than direct questioning. He usually is eager to go places and see things, to examine the contents of closets, shelves, and drawers, to inspect new objects, to open packages, to try his hand with gadgets about the house, and the like. Moreover, he may pursue a line of study over a period of time in rather mature fashion, as when a four-year-old repeatedly goes to a low hanging bird's nest and watches while the nest is being built, the eggs are being hatched, and the fledglings are being cared for.

THE MATTER OF ATTENTION SPAN

While the youngster of preschool age pursues an active career of learning, many of his efforts will be of short duration. On occasion he will stay with a project for an hour or more, but most of his enterprises at the age of two, and many at the age of six, hold him only momentarily. At two, for example, he may start across the room with his eyes on his doll carriage, but midway he may notice a ball, pick it up, and veer off in another direction. This shifting appears not only in "mental" activities but also in the physical sphere: in listening to an interesting story, for example, the young child is likely to shift his position from time to time. Regardless of how intensively his mind is occupied, he has less capacity for sitting still than is shown by an older person.

The ability to concentrate, variously called "attention span," "concentration span," and "persistence," is a matter of much importance from an educational point of view not only at the preschool level but at later levels. It is not possible to present a single precise norm or average for all ages. One reason is that the child's attention span will vary in different situations. Again, any average that emerges from a series of timed observations may have little meaning since it is likely to represent periods ranging from a few seconds to over an hour. Moreover, studies dealing with attention span have been conducted in different settings and have used varying criteria of what constitutes the end or interruption of an activity. Even so results from such studies are instructive in indicating substantial increases from year to year when similar observations and criteria are applied at different age levels.

In one investigation, the average duration in minutes of sustained attention rose from 6.9 minutes at two years to 12.6 at five; in another study, there was a rise from 9.4 to 23.82 for the same period; in a third, there was a rise from 2.5 at two to 5.6 at four. It is interesting to note that according to these

studies, all utilizing different settings and criteria, the attention span approximately doubles from age two to age four.

FACTORS INFLUENCING PERSISTENCE

Inasmuch as attention span or persistence is influenced by a variety of factors, it is not possible to lay down a general rule for the timing of activities at the nursery school and kindergarten levels. Even if data were available concerning the average span in a variety of different undertakings, the adult would still have to use his judgment in gauging what the traffic will bear. He must give heed to a number of considerations. First, motivation is of supreme importance. The more an undertaking ties in with the child's own concerns, the longer the period of concentration is likely to be. Again, the child's persistence might be influenced by conditions such as fatigue, hunger, effects of past illness, and the like. Further, his ability to concentrate will be affected by distracting emotional problems. His persistence will also be influenced decidedly by experiences of success and failure. His efforts will lag sooner if he has no awareness of progress or accomplishment. By the same token, he is likely to persist longer if the project is so arranged that he can get a taste of achievement almost from the start.¹

Make-Believe

Make-believe serves many functions in the child's development during preschool years. It also serves many purposes as he goes about his business from day to day.

Evidences of make-believe appear almost as soon as a child can talk. Indeed, some children will respond to imaginative play or take part in imaginative play, such as joining an older person who pretends to bark and act like a dog, before the idea of being a dog can be communicated to them in words.

¹Additional comments about attention span appear in Chapter V.

MANIFOLD FUNCTIONS OF MAKE-BELIEVE

Make-believe serves as a way station to reality. Through make-believe the child can go beyond actualities in dealing with persons and things. He can overcome limits of time and space. He can wield powers and enjoy possessions that real life has not provided. This enables him to extend the boundaries of his experience, to gain practice in dealing with situations without assuming responsibility and without being bound by rules of logic. He can repeat, test, and consolidate impressions that he has gained concerning the ways of the actual world.

Make-believe also enables the child to express his emotions and to gratify his desires in ways that may be denied to him in real life. He can "take out" his anger on a doll. He can love and comfort his "baby" without stint. He can have "chocolate cakes" to his heart's content. He can relive, and to some degree cope with, his fears, as when he assures his Teddy bear that "those dogs won't bite."

Make-believe also plays an important role in the child's social life with other children. Much of children's play with one another revolves around make-believe themes. Such activities not only provide a common enterprise but also offer a means of practicing the techniques of social intercourse, of performing as a leader or a follower, and of enacting various roles involved in family and community life. Through make-believe a child may also win his way into a group, as when he assumes leadership by virtue of his ability to suggest attractive ideas for play, or if, when left out of things, he finds his way into a group by accepting a humble role, such as being the "baby" or the "patient" whom the "doctors" and "nurses" can ply with "castor oil," "mustard plasters," and "ice packs."

The child's ability to enter with zest and feeling into make-believe situations gives a spur to many forms of intellectual activity. It adds relish to stories that he hears, whether these be fanciful or accounts of actual creatures, places, and things. This capacity for vicarious experience is a spur to the use of

language. It eventually provides for some children part of the incentive to learn to read. Again, the ability to participate on a level of "pretend" adds to the appeal of artistic activities—dramatics, singing and dancing, drawing and modeling.

ADDED HAZARDS

While the child's powers thus are supplemented, so to speak, by his ability to project himself into imaginary situations, the same ability also makes him vulnerable. This can be seen notably in connection with children's fears. As the child becomes able increasingly to imagine, he becomes susceptible to fears of imaginary dangers. At two a noise in the dark may be just a noise. At six this noise may be embroidered with sinister meanings. Again, even without the noise he may be able to people the dark with imaginary creatures. One result is that the child's fears, as he becomes older, tend to focus relatively less on tangible things in the immediate environment and relatively more on dangers of an imaginary sort.

SELF-REVEALMENT THROUGH MAKE-BELIEVE

Just as imaginative activities play an important role in the child's everyday life, so also are they important from an educational point of view. These activities help to reveal the child—his thoughts, concepts, interests, and emotional concerns. In recent years a number of procedures have been devised to capitalize on the fact that a make-believe setting may elicit expressions of thoughts and feelings which the child might not reveal if he were directly questioned or if he were observed only when engaged in prosaic activities. The name "projective techniques" has been given to procedures providing a situation in which a child can "project" or act out his feelings by way of an external situation.

Thus, he may be asked to enter into a "housekeeping game" which presents to him miniature kitchen equipment and dolls representing a mother and an older and a younger child. One

child in such a situation placed the children (dolls) on the kitchen stove and then proceeded to "burn" them. This act, in the light of other facts known about the child, seemed to express the youngster's jealousy toward a younger sibling.

Story-telling, drawing, painting, dramatic play, and the use of a variety of playthings, such as blocks and balloons, have also been utilized as projective techniques. Procedures such as these may throw light on a child's inner life or provide a clue which can be followed by other lines of study. It should be emphasized that caution must be used both in applying these techniques and in interpreting the child's responses. Use of these procedures requires a good deal of training and experience and should be supplemented by other methods of study and other sources of information.

The child's make-believe can be used to gain insight into his mental life not only by way of staged situations, such as those described, but also by way of observing his spontaneous make-believe as he goes about his own play. Here, too, it is necessary to be cautious in interpreting the child's make-believe behavior. Moreover, it usually is necessary to have a good deal of other information about the child in order to get an authentic picture. But even if the make-believe activities are used only as supplementary data, so to speak, such data may at times be very useful. One thing to remember is that imaginative activities, whether in the form of make-believe, fantasies, daydreams, or dreams, do not "just happen." These products of the imagination may represent bizarre, illogical, and quite impossible situations, but they still are products of the impressions, thoughts, and emotions involved in the experiences of everyday life.

USE OF MAKE-BELIEVE IN ADULT-CHILD RELATIONSHIPS

The child's make-believe not only may provide clues to his inner life, but may also be utilized for practical purposes in

everyday dealings with the child. There will be many times when the child's cooperation can be gained by way of make-believe. If, for example, the youngster is playing at being a bus driver and it is necessary for the adult to interrupt, the child may respond favorably to the suggestion that he "park" his bus or that he leave the game "as soon as all the people have gotten out of the bus," where a more prosaic demand would go unheeded. There are countless situations in which an adult can enter partially into the child's make-believe and establish rapport, promote companionship, or give such instruction or advice as the child may solicit.

There are times, also, when an adult can enter wholeheartedly into a make-believe situation to help a child. This can be observed, for example, in connection with children's fears. The mother of one child who had in some way acquired a fear of an imaginary dog entered into the child's play and accepted the "dog" as a reality, bringing it more and more into the play. In time, through dealings with this "dog" in a number of pleasant situations, the child's fear appeared to wane. Another mother similarly incorporated a closet, which the child feared as the locale of imaginary dangers, into her play with the child, with good results.

By taking advantage of the opportunities offered, an adult can also utilize make-believe to help children to establish social contacts; for example, the "pilot" of the boat, at the teacher's suggestion, may ask a certain withdrawing child to come into the boat as a sailor. Again, a make-believe setting may enable the adult, by example, to instruct a child in many social amenities which the youngster can use to good advantage in his actual dealings with other persons. Examples of such usages could be multiplied indefinitely.

MAKE-BELIEVE AND ART

Many opportunities as well as certain questions of policy arise in connection with children's use of imagination in their

artistic activities. Much of the "creativity" of the preschool child represents an expression of his imagination in tangible form. Sometimes his "creative" work takes the form of fanciful embroidery; at times it represents an original integration of ideas. Often a child uses his imagination as an afterthought to supply a name to a painting or other work of art when it is finished.

In all of these ways, imagination serves a useful end. In his artistic activity, as in the larger aspects of his play, his dealings with persons, and his contact with the world, a child's imagination gives him freedom to practice, to explore, to try for effects. His imagination also helps provide interest and zest. The exercise of imagination is important, of course, in all forms of art at all levels of maturity, but it is especially helpful when the child first begins to try to paint, to dance, to improvise tunes, to try his hand at architecture with sand and blocks. The more the child is freed from the exactions of reality and the demands for refined techniques, the freer he will be to practice the elementary skills involved in the various forms of art. It is important for him to try his hand, to derive satisfaction from what he does, and to have the incentive to go ahead.

The Preschool Artist

In the foregoing, the subject of art was touched on by way of the discussion of children's imaginative activity. This subject involves a number of other important considerations.

THE LURE OF THE ARTS

At the age of three and thereafter the preschool child, if given an opportunity, spontaneously devotes a good deal of his time to artistic activities. If supplied with crayons, paints, and scissors, he will plunge into coloring, drawing, painting, and cutting. With the slightest encouragement he will display his products and distribute them as gifts and, if he is not rebuffed, he will occasionally ask for advice and suggestions.

Similarly, if given an opportunity, he will throw himself into rhythmical and musical performances. He will march and dance to music, take the role of a drum major and band leader, imitate the playing of drums and the blowing of bugles. He likewise begins to express aesthetic interests, quite often on a modest scale, in working for effects with doll clothes and ribbons and with other articles of personal adornment.

TO TEACH OR NOT TO TEACH

One important issue that arises in connection with children's experience in art both at home and at school is how much adults should try to suggest and teach and how much they should use a hands-off policy.

Anything that is said about the role of the teacher in children's art is likely to arouse debate. This is all the more true for two reasons. First, there are few good scientific findings with regard to the functions of the teacher, notably in the graphic arts. Second, adults who are interested in the matter often have decided personal opinions that reflect their own notions of what is "art" and their own particular artistic interests or talents. As against the practice, at one extreme, of insisting on formal exercises and drills according to standard models, there is the view, at the other extreme, that a child's artistic activity is the most sacred of all cows in the pasture of development, that any attempt to stimulate or guide artistic activities is likely to inhibit the child's own creativeness or to promote antagonism.

The issue is further complicated by the fact that children differ in their artistic abilities and inclinations. If adequate scientific data were available, it undoubtedly would be shown that no single recipe would be suited to all children. Such data as are available indicate that individuals differ in their imaginative qualities, in their musical and rhythmical abilities, and in the ways in which art functions in their lives. They differ also in aesthetic inclinations. At an early age one child,

for example, is much more fascinated than another by poems and songs. He may enjoy the rhythm; he may supply, mentally, a flow of images when he hears or repeats a poem. Another child may revel more in imagery in graphic form.

The issue raised above cannot, of course, be answered in either-or fashion. Certainly we should maintain a hands-off policy if that is the only way to safeguard the child's spontaneity and to preserve his enjoyment of the arts. Art ceases to be art, something valuable for its own sake, when it becomes a struggle to follow directions and to meet standards set by others. One child's barely recognizable drawing of a horse may be a more genuine work of art than another child's drawing that is almost perfect in all its details. From this point of view, better a crude but zestful artist than a skillful but cold-blooded craftsman!

OPPORTUNITIES TO ACHIEVE

Artistic interests, like other interests, thrive on opportunities to achieve. This does not mean, however, that the adult must not take a hand and help the child. If a child is given a chance to learn in a favorable setting, the very thing that he has learned is likely to provide a basis and an incentive for further learning. In two studies of children of preschool age it was found, for example, that youngsters who were given a chance and encouraged to sing tones or phrases which they could not previously sing not only made remarkable gains in their singing but also gained in their enthusiasm for singing.

Given a voice, a child of his own accord will sooner or later try to chant or sing. This is in keeping with the principle of spontaneous use noted in an earlier section. But this original impetus will be strengthened if the child is helped to discover the possibilities that lie before him. The satisfaction derived from singing the tunes and chants in his repertoire at the moment can be enhanced if he is helped to sing additional tunes, to master additional phrases and melodies. This will

result in opening up to the child a larger world of song.

The teaching which helps a child who is ready to move on into higher reaches of skill in the use of his voice is not likely to succeed by way of colorless exercises and repetitious drills. In one of the studies mentioned above, the "training" in singing which succeeded so well was incorporated into the setting of games, horseplay, shenanigans, and make-believe projects which depended for their success as much on the artistry of the teacher as on the capacity of the children.

The value of an opportunity to practice and to gain competence appears also in a study of rhythmic activities of preschool children. It was found, for example, that some children, once they had had an opportunity to master the simpler steps involved in keeping time to a piece of music, would move on to a further phase of improvising variations of their own.

In connection with the preschool child's endeavors in drawing, painting, modeling, block construction, and the like, there likewise will be occasions for teaching. In these activities, as in others mentioned above, the first essential is to provide an opportunity for the child to try his hand, to experiment and to practice in his own way, and to gain the satisfaction which can be derived from even the crudest performance.

It is of first importance that the child have a chance to cultivate and preserve his taste for these activities. Criticism and efforts to compel the child to strive for effects beyond his ability can readily convert into a chore what once was a spontaneous enterprise. If the child is held to standards he cannot achieve, he will also have an experience of failure which certainly is not conducive to further learning. This still leaves the door wide open for adult participation. In their drawing activities, for example, many children at four years and thereafter will solicit suggestions from an adult who has followed their work with interest. They may ask the adult to show them how to draw a certain flower which they wish as part of a landscape, how to put a door in a house, or they may ask for advice in

connection with an uncompleted drawing. In painting, they are likely to welcome suggestions on how to mix paints and how, by cleaning the brush, to avoid mixing them, or how to keep the paint from running, dripping, and so on.

NEEDED RESEARCH

Although a large volume of research has been done in the field of art at the preschool level, it does not begin to offer the basis for an art curriculum. It would be helpful if the knowledge and experience of teachers of children at this age level could be made more articulate. There is need for systematic information not only on children's ability to appreciate and perform but also on the kind of materials best suited to various maturity levels and the kinds of projects best adapted to integrate art with other experiences.

There is need also for research regarding the ramifications of art in the emotional, social, and intellectual lives of children. As already suggested, artistic activities may sometimes serve as an emotional outlet or as a means of expressing emotion in tangible form. Again, limited observations indicate that children's social adjustments can sometimes be improved through the medium of artistic activities. A shy child, for example, might be brought into the swing of things through lively music which gave him an opportunity to join with other children in a common activity. An experienced teacher will be aware of many of the possibilities in this area, but there is need of a more systematic description of ways in which these possibilities can be realized in concrete and tested situations.¹

EMOTIONAL DEVELOPMENT

The story of emotional development during preschool years is a continuation of the story begun in early infancy. Changes

¹Certain additional issues pertinent to art education at the preschool and later levels are discussed in Chapter V, *The Elementary School Child*.

take place along two major lines. First, as the child's abilities and interests expand he is able to cope with many situations which aroused him at an earlier time, but at the same time he becomes vulnerable on new fronts. Second, during preschool years children's expression of emotion tends to become less violent and explosive and more refined, subdued, or furtive.

EMOTION IS INVOLVED IN ALL THAT LIFE INVOLVES

The subject of emotion has appeared repeatedly in the foregoing discussion of various aspects of the development of the preschool child. Feeling and emotion are interwoven and intertwined with all aspects of the child's life. The free expression of the impulse to activity may give pleasure; the blocking of this impulse may arouse anger; the loss of anything that has fitted into the customary way of life may arouse grief; the threat of loss or of pain, or the possibility that anything valued may be destroyed, may cause fear. Similarly, the child may be frightened by any sudden or intense stimulus that catches him unprepared or at a loss how to proceed. As the child's powers expand, as the range of his activities widens, as his undertakings increase in scope and complexity, there is a corresponding expansion in the variety of issues capable of arousing emotions of a pleasant or unpleasant sort.

Since references to the interlocking of emotion with other aspects of a child's behavior have been made repeatedly in the foregoing sections, the present treatment will not offer an additional comprehensive account of emotional behavior at the preschool level. There are, however, a few points that deserve reiteration or emphasis.

INCREASINGLY INSCRUTABLE

One problem confronting parent and teacher alike is the increasing difficulty in understanding the emotional behavior of children as they grow older. With the expanding of the

child's mental operations, motor abilities and social activities, the circumstances that arouse his emotion become more and more complex. As he develops in the direction of more subdued, subtle, or indirect expression of emotion, it becomes more difficult to fathom his feelings and, even when he shows emotion, to understand the cause.

The situation is further complicated by the fact that the child's emotions will be influenced not only by immediate occasions for joy, anger, or fear, but also by past happenings and by his anticipation of events that might lie ahead, such as the possibility that he might meet a certain dog if he went for a walk. Further, he will be affected not only by a particular happening but by the cumulative effects of past experience. The state of his feelings will also be influenced markedly by his physical condition: when hungry, some children will become enraged by setbacks that ordinarily would not bother them; when sleepy or ill or fatigued they will become angry, or apprehensive, or depressed by happenings that normally they take in their stride.

EMOTIONAL BY-PATHS

Adults must constantly remember that a child's emotion may be aroused in devious ways or may turn on issues that do not appear on the surface. For example, a four-year-old girl was firm in her refusal when asked by her mother to go to the basement to get a pair of shoes which she had carelessly left there. When pressed she became quite angry. But back of this anger, the mother realized was fear. More than a year earlier the girl had been startled and frightened when the door to the basement stairs blew shut with a bang. Since then she had been uneasy about the stairs and the basement. She now faced the issue, not by an obvious display of fear but by a display of anger. An adult, in this situation, might unknowingly bring to bear pressures which would make the child even more apprehensive of the basement.

The fact that motives which adults easily fail to recognize may underlie a child's emotional behavior can be seen at times in very homely and simple situations. A girl of about five years insisted at bedtime that her mother remove some nail polish which the mother, in a moment of gaiety, had put on the youngster's toenails. To do this at the time was inconvenient since the mother was also busy putting a younger child to bed. When the mother demurred, the girl became annoyed, but the mother was able to settle the matter quite amicably. By chance she had earlier glimpsed the child playing with the almost empty bottle of polish remover, and she guessed that the youngster really wanted the polish removed so that she could have the odd-shaped bottle. Instead of taking issue with the child's demand as expressed, the mother simply promised that the youngster could have the bottle when it was empty, and this settled the matter.

In the everyday life of the child there undoubtedly are countless emotional situations analogous to these, in which adults fail to detect the child's motive or purpose. In many such situations the adult's failure to understand may not be a serious matter. Nevertheless, the complexity of the factors underlying emotion, even in rather simple situations, offers many opportunities for misunderstanding.

It is important on account of this possibility of misunderstanding that the basic relationship between adult and child be friendly and affectionate. An attitude of affection will go far to cushion the effects of misunderstandings that arise even in the most loving home. If there is lack of affection, misunderstandings are likely to be all the more frequent, since almost any happening can be made a pretext for conflict between adult and child.

The issues are frequently a good deal more complex than the illustrations indicate. A child may, for example, weep and protest that he does not want to go to nursery school. There may be a new baby—and the child is apprehensive or jealous,

or he may feel impelled for one reason or another to cling to his mother. Again, a popular youngster may, for example, be waging a losing battle with a newcomer who is attracting a good deal of attention in the group and his emotional reaction may take the form of wanting to stay away from school.

EFFECT OF EMOTIONS AND ATTITUDES OF OTHERS

While the emotional life of the preschool child is exceedingly complex, and the scope of the emotional concerns of the three-, four-, or five-year-old has expanded tremendously beyond the concerns of infancy, it still is important to remember that the preschool child is a baby in many respects. He continues to be highly dependent upon his elders for both physical and emotional support. The momentary upheavals and shifts in his general mood will be much affected by the emotional climate created by others.

We have already emphasized the importance of a general background of affection. Similarly, the child will be affected by the extent to which the atmosphere in which he lives is clouded by worry, punishment, or gloom, or is brightened by happier rays. He will be affected also by other more particular features of the emotional environment established by others. For example, his fears are likely to be much influenced by the fears he sees exhibited. There tends to be a rather high degree of correspondence between the fears of a child and those of his mother. Again, in any frightening situation a child's immediate reaction of fear and the intensity of the after-effects of the experience are likely to be influenced by the degree of fright or composure manifested by his elders.

ADULTS, TOO, HAVE A RIGHT TO BE HUMAN

While the moods and emotions of others thus can affect the young child, it does not follow that adults should assume a false front in order to shield the child. To be sure, the adult should bear in mind the influence of his emotional behavior.

The very fact that an adult bears this in mind and tries to govern himself accordingly is likely to be to the good. But however mindful the adult may be of his responsibility, he still is an emotional creature himself and he has a perfect right to be. He will be irritated and annoyed at times; he will be startled or frightened on occasion; he will be subject to some of the worries and sorrows that are the lot of every normal human being. A policy of complete concealment of such emotions would eventually betray itself. Moreover, if an adult always struggles to keep the lid on his own feelings he may, in the process, create more tension for himself and others than he would if he felt free to be his natural self. Further, a policy of complete concealment of fear, for example, might do much more harm than good; in subtle ways it might have the effect, especially with a bright child, of causing him to try to conceal his own fears or of causing him to be ashamed that he is afraid.

In like manner, a policy of deliberate deceit or a squeamish hush-hush attitude—such as concealment of facts of illness or death which the youngster eventually will discover anyhow, or elaborate efforts to shield the child from the fact, say, that his elders are sad because of a loss or are disappointed by a turn of fortune—is more likely in the long run to cause uneasiness or lack of “security” than a forthright way of dealing with such matters. This does not, of course, free the adult from his responsibilities. He should try to spare the child from emotional scenes that are beyond his ability to understand or endure. The adult should also try to keep his own emotional house in order. While he should be free to share his emotions with others in the give-and-take of everyday life, it is his responsibility to help carry the child’s emotional burden rather than to put the burden of his own emotions upon the child.

EDUCATIONAL SIGNIFICANCE OF DEVELOPMENT DURING PRESCHOOL YEARS

The point has been reiterated that the development of chil-

dren during the pre-elementary school years is a matter of importance not only to adults concerned with the rearing and education of children but also to persons concerned primarily with the education of children in the elementary and high school grades. Nearly all the goals we seek in the education of older children must be achieved by way of education that builds upon the foundation of habits, skills, attitudes, emotional tendencies, and "personality" traits established before the child reaches the first grade. This does not mean that the child's ways of behaving are rigidly set by the age of about six. In the process of maturation beyond the age of six new capacities and drives emerge as well as new hurdles and hazards. Changing forces within the child himself and changing opportunities and pressures in the external environment come into play. As a result, there will be important changes in his way of behaving.

But the impact of the new will be influenced by ways of behaving already established. A child's adjustment in the first grade will be influenced strongly by what has gone before. His adjustment in the first grade, in turn, will influence his adjustment in later grades. In passing it may be noted, on the negative side, that a large proportion of pupils who are described as "problems" in the fourth, fifth, or sixth grade have a history of "problem behavior" extending back to their first year in school. On the "normal" side, the qualities of personality which distinguish one child from another before youngsters enter school show a high degree of persistence during ensuing years.

NEEDED RESEARCH

The need for research—research combining the interests of the student of child development and the practical interests of the educator—is especially acute at the kindergarten level, or the age level extending from about four and a half to six years.

Many systematic developmental studies taper off beyond the age level of four. On the educational side there is a huge volume of literature dealing with the purposes and the specific projects and activities involved in a kindergarten program. Many of these practical proposals of what the nursery school and the kindergarten curriculums should contain have not been appraised by systematic research studies.

At these levels, however, as at all educational levels, the educational program would be indeed threadbare if it built only upon tested scientific data. If we could, by some magic, tap the wisdom that kindergarten teachers have acquired through long actual experience with children, we would have a fund of information surpassing anything offered by formal research studies. Unfortunately, much of this wisdom is inarticulate. Many teachers know a great deal which, if formulated into clear-cut generalizations for others, could be put to practical test.

CHAPTER V

THE ELEMENTARY SCHOOL CHILD

THE first day in the first grade is an important milestone in the lives of most children. Not many have had the experience of attending school at the kindergarten level and fewer are veterans of nursery school. For a large proportion even of those who have gone to kindergarten the day is a momentous occasion. It marks the child's first step on one of the long roads leading away from a mode of life that centers primarily in the home to a mode of life that increasingly puts the child on his own in the affairs of the larger world.

To many parents, too, the child's first day in the first grade is a momentous event. The child who was their baby is now in the custody of someone else during a large number of his waking hours. Even where close relations between home and school prevail the child's life at school represents something quite distinct from his life at home. The fact that the child is now beginning his formal schooling also forcibly reminds parents that their youngster is growing up, that he is starting on a course which eventually will carry him away from his moorings in the home toward an independent career of his own. It is no wonder that many parents feel a tug at the heartstrings as they watch their child go forth.

DEVELOPMENTAL GOALS

In this chapter will be discussed some of the developments during the age range from about six to about twelve that are especially significant from an educational point of view. By way of introduction some of the major features of development during this span of years will be sketched.

INTELLECTUAL

A prominent feature of mental development from six to twelve years is the expansion of the child's intellectual horizons. At six the child's thoughts turn primarily upon happenings in which he personally is involved. At twelve he is still absorbed with personal concerns, but his ideas also embrace events in the world at large; he is interested in current affairs and is able to discuss them with some understanding. At six his mind dwells mainly upon the immediate or upon events that are quite recent or will occur in the near future. At twelve he has some grasp of the historical past, and some of his plans are likely to have reference to a somewhat distant future. From six to twelve the child also makes huge strides in his ability to think in terms of the abstract as against the concrete.

The period from six to twelve is outstanding as the period during which the child acquires the capacity and, with the aid of schooling, the ability to master the major symbols of our culture by way of reading, writing, and the manipulation of numbers.

During this period the child also gains in ability to perform simple mental operations with increasing speed, to deal with problems of increasing complexity, to bring an increasing number of associations to bear upon a problem, to persevere in a task, to plan and see his way through the chores and the spade work subsidiary to his plans, and to acquire sustained interests of his own. He gains in ability to be a "self-starter," to take thought before action, to weigh pros and cons.

In the moral sphere he moves toward appreciation of rules of the game and rules of ethics as precepts that he regards as his own rather than as edicts imposed solely by his elders.

A prominent feature of development in the mental sphere, paralleling an advance in the social sphere, is a marked gain in the child's ability to take part in intellectual teamwork—to join with others in a logical discussion of an issue or a topic.

MOTOR

The period from six to twelve is conspicuously a time when the child's motor interests and abilities flower and flourish. Healthy children of this age are on the go much of the time. They seem to possess almost boundless energy. Their urge to activity expresses itself not only in games and contests and in a variety of complex skills but also in running, jumping, tussling, chasing, and in other activities that seem to function as though activity were an end in itself.

SOCIAL

In the social sphere in the age span from six to twelve, the child gains the ability to enter into complex forms of teamwork and he comes increasingly under the sway of the customs, manners, opinions, and values of his own age group.

EMOTIONAL

In the emotional sphere the child's susceptibilities expand with the expansion of other aspects of his make-up. The tendency toward more moderate or subtle expression of emotion, already well advanced during preschool years, continues.

INTELLECTUAL DEVELOPMENT

CHANGES IN INTELLECTUAL ORIENTATION

Some of the major trends in mental development during the elementary school years are well illustrated by studies that

compare children of various grade or age levels. In one such study records were obtained of the contributions of children in the second, fourth, and sixth grades during periods of "free discussion."

One comparison took account of pupil comments that dealt with immediate personal activities and experiences. In the second grade 61 per cent of all contributions dealt with personal activities and experiences, in the fourth grade 41 per cent were in this category, and in the sixth grade, 18 per cent. In the second grade 83 per cent of all contributions dealt with matters that involved the child's "personal presence" or direct contact. In the fourth grade 52 per cent were in this category, and in the sixth, 27 per cent.

The reverse of this trend appeared in connection with comments that dealt with world and domestic news and with the activities of people other than the spokesman himself. In grade two only 18 per cent of the comments dealt with matters in this category. In grade four the score was 29 per cent, and in grade six, 60 per cent.

These findings illustrate in quantitative terms the extent to which the child at about the age of seven is predominantly occupied with his own immediate personal affairs not only in his private thoughts but also when he is holding forth before a group. They illustrate how the child, with advancing age, moves into the larger universe of discourse and shows an interest in affairs which extend considerably beyond the range of his own personal experience. To be sure, the child of twelve, like the youth of eighteen, or the oldster of seventy, is still preoccupied with himself. But he is able to embrace within himself an extended array of concerns and he is able also to put immediate personal concerns aside at times when he enters into discussion with others.

CAPACITY FOR INTELLECTUAL TEAMWORK

The same study also illustrates how children, as they grow

older, become more capable of a meeting of minds. Contributions were studied from the standpoint of those that bore no apparent relationship to what earlier contributors had said and those that carried on a theme or chain of thought introduced by preceding contributors.

In the second grade 87 per cent of all contributions represented a "new topic," with no apparent logical continuation of what had gone before. In the fourth grade 33 per cent of the contributions were in this category, and in the sixth, 23 per cent. These findings demonstrate the difficulty children of beginning school age have in joining in a common intellectual pursuit that involves a give-and-take of ideas of an impersonal sort. They also illustrate the extent to which ability to take part in intellectual teamwork may be acquired by the time a child is twelve years old.

CHANGING OUTLOOK ON THE WORLD OF PEOPLE

The extension of children's interests beyond their immediate personal affairs is demonstrated also when children at different age levels are asked to name the person or character whom they admire most or whom they would choose as their hero or ideal. In one study it was found that over half of the heroes and ideals named by six-to-eight-year-olds represented characters from the immediate environment. At nine years, the percentage was 45, and by twelve years it had dropped to 30. On the other hand, historical characters or contemporary public characters with whom the children had no personal contact represented about a third of the heroes and ideals named at six to eight years, and about two-thirds at twelve years.

INCREASING ABILITY TO GENERALIZE

As the child matures he becomes increasingly able, in his thought processes, to go beyond the discrete and particular to the more general and inclusive. An illustration of this appears in a study in which children were asked to give three wishes.

At the five-year to six-year level, 55 per cent of the wishes dealt with specific material objects. At eleven to twelve years, only 14 per cent dealt with specific material possessions. In the intervening years, children had become increasingly able to generalize and to understand, for example, that a single wish for a large sum of money would provide for things—such as a water pistol, a bicycle, and a swimming suit—each of which might be mentioned earlier as a separate wish.

In results such as the foregoing it is well for the educator not only to be aware of the expansion of interests and ideas that has taken place by the age of twelve but also to note, by the same token, that the preoccupations of the child in the early school grades are confined to matters quite close to his everyday life. Moreover, as will be shown below, even though the average twelve-year-old exhibits much interest in current, impersonal affairs as compared with a relative lack of such interest at six or seven years, the twelve-year-old is still likely to have quite vague or inaccurate ideas about many topics and issues relating to the life of the adult world.

THE CHALLENGE OF RESEARCH FINDINGS

What research tells us concerning the “content of children’s minds,” the nature of their interests, and the range of their understanding has many important educational implications for the social studies as well as other subjects. What ground should we try to cover in the “social studies,” what materials should we include, and what outcomes may we expect?

Various lines of evidence bear on this problem. Many findings based on studies of children in formal school situations as well as in “progressive” schools indicate that schools have either (a) failed to discover and apply effective teaching techniques or (b) tended to push children too soon into subject matter and ideas relating to adult political, economic, and social affairs.

MEANINGS THAT DON'T CLICK

One group of findings bearing on this problem comes from studies of children's understanding of terms that are involved in discussions of historical and contemporary social, economic, and political affairs. In one study children were presented with a long list of such terms. They were not asked to formulate definitions of their own but were merely asked to mark what they believed to be the correct definition in a group of four alternatives offered for each term. At sixth grade one-third or fewer of the children correctly recognized the meaning of such terms as "government," "tariff," "secretary." One-half or fewer correctly recognized such terms as "self-government," "democracy," "veto." When a large proportion of pupils fail to understand terms such as these, which tend to be common in the writings and discussions of historical and contemporary affairs to which pupils are exposed, it is not likely that they will understand the significance of what they read and hear.

INCREASING THE DOSAGE DOES NOT CHANGE MATTERS

Another line of study concerns children's reactions to war. During wartime, one would expect children to be concerned about affairs in the world since they are reminded of wartime happenings through all channels of communication, including conversation in the home. Findings in various studies indicate that children in the early elementary grades tend to think of war in terms of disconnected and rather concrete happenings. There are, of course, exceptional children, as young as six or seven, who have quite a profound grasp of military and political facts. But it is not until well toward the end of the elementary grades that a large percentage of children are able, for example, to report the names of the major belligerents on both sides.

In a study conducted in January, 1940, with children living in or near a large city on the east coast it was found that 46 per cent of children aged eleven and twelve years gave the wrong answer when asked which country had the larger air force, Germany or England. At the time, the numerical superiority of the German air force was a matter of common knowledge among adults; it frequently was mentioned in the news and in comments on the news, and it was a fact of great concern to all adults who favored the Allied side. Yet this crucial fact apparently had registered on the minds of only a little more than half of the eleven- and twelve-year-old children. Of great importance also for the understanding of the war situation was the fact that the British had a larger naval force than the Germans. One-third of the eleven- and twelve-year-olds gave a wrong answer on this point. A matter of incidental interest in this connection is that predictions of the emotional effects of war on children (short of actual bombing and physical privation) have on several occasions proved wrong, the reason being that adults have assumed that children would see in wartime happenings the same meanings and, in consequence, would have the same apprehensions and forebodings as adults.

It seems reasonable to assume that if children, almost until they reach teen age, show large gaps in their grasp of some of the elementary factors in a social phenomenon thrust upon them so insistently as war, they are likely to have even less concern and understanding with regard to a number of peacetime social issues, such as problems of conservation, capital and labor, and the like.

On the basis of a study made early in the second world war concerning children's understanding of wartime events, one investigator is moved to assert that "it is questionable whether it is reasonable to require children of twelve and under to engage in systematic, detailed study of large-scale social undertakings that do not impinge directly upon their experience."

He states that no exact age can be set at which a child would be "ready" for effective discussion and study of the topic of war (during wartime) or of peaceful social issues. But he notes that children of about the age of thirteen possess more of the requisite knowledge and interest than do children before that age.¹

CONCEPTS OF TIME

Another line of evidence bearing on the subject of "readiness" for the study of topics usually associated with the social studies curriculum comes from an investigation that deals with the limited topic of children's concepts of time. Various investigators have shown that it is not until near the end of the elementary school period that the average child has much understanding of time in the sense of historical dates and periods, the chronology or sequence of happenings in the near or remote past. A child's conception of "a short time ago" is clearer, as one might expect, than his concept of "a long time ago," but even the former concept may be quite vague to many sixth graders. The idea of the future is, of course, even more difficult to grasp. In one study it was found that while only one per cent of fourth, fifth, and sixth grade pupils named "yesterday" as "a long time ago," 52 per cent named "tomorrow" as "a long time to come." A certain amount of mastery of the idea of historical time obviously is necessary if a child is to grasp the meaning of many of the ideas that are included in the study of world affairs.

A test of children's understanding of time concepts was administered to two large groups of children at the beginning of

¹In a study of children's ability to interpret cartoons dealing with contemporary issues, Shaffer found that the average age at which abstract interpretations (as against, say, an account of the concrete contents) appeared was 12 83. It is perhaps a coincidence, yet it is interesting to note that the age at which this capacity for the understanding of abstract meanings appeared corresponds roughly to the age at which a majority of children showed a fairly comprehensive grasp of the war situation in the study cited above.

the sixth grade. Following this, the children in one group had a good deal of emphasis placed on time in their regular class work. They had units on history; they made use of time lines and time charts and various other devices designed to show the relationship between the past and the present. With the other group history in general and time concepts in particular were not singled out for emphasis.

The test of time concepts was administered again at the beginning of the seventh grade. It was found that the two groups made almost the same average score. In other words, undefined changes occurring in the process of a year's mental growth, plus experiences which the untrained children had by way of their ordinary reading, radio programs, movies, everyday conversation, and the like, enabled them to perform as well on the test as did youngsters who had received the special instruction.

These findings are in keeping with the dual proposition set forth above, namely, that schools either have not discovered proper methods of achieving some of the understandings they have striven for in parts of the elementary school curriculum, or they have tried to push children too soon into the acquisition of ideas which can be mastered only with added mental maturity and the experiences which come incidentally in the everyday life of the growing child.

PUSHING CHILDREN BEYOND THEIR DEPTH

When children are thrust too soon into subject matter dealing with social and political affairs, they fail, of course, to grasp the ideas that the teacher is seeking to cultivate. But some kind of learning takes place. One consequence is that they learn to bandy certain words with only a partial understanding of their meaning. In one study it was found that a large percentage of children who had learned, for example, that Benjamin Franklin was a minister to France were at a loss to ex-